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THE FRIEDRICH F. TIPPMANN

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OUTLINES

OF THE

NATURAL HISTORY

OF

GREAT BRITAIN

AND

IRELAND.

CONTAINING

A ſyſtematic Arrangement and conciſe Deſcription of all the Animals, Vegetables, and Foſſiles which have hitherto been diſcovered in theſe Kingdoms.

By JOHN BERKENHOUT, M. D.

IN THREE VOLUMES.

VOL. I.

Comprehending the ANIMAL KINGDOM.

LONDON:
Printed for P. ELMSLY (Succeſſor to Mr. VAILLANT)
facing Southampton-ſtreet, in the Strand.
M DCC LXIX.

TO

THE RIGHT HONORABLE

THOMAS

LORD VISCOUNT

WEYMOUTH.

My Lord,

I Preſume to dedicate to Your Lordſhip the reſult of my amuſement during my late reſidence in the Country; a book which, for the ſake of this Nation, I requeſt that you will never read. The ſubject, though of conſequence to ſome individuals, is be-

neath the attention of a Secretary of State. But no man knows better than Your Lordſhip the importance of the office you fill; therefore no man is leſs likely to indulge in trivial ſtudies or amuſements.

Why then, it may be aſked, do I trouble You with a book, with the ſubject of which You ought to remain unacquainted? If Your Lordſhip aſk the queſtion, I will honeſtly tell You, that my motives are *gratitude* and *vanity*. With regard to the firſt, it is all I have to offer for obligations which I can never forget; and concerning the latter, I could not reſiſt the opportunity of boaſting to the world, that I am not diſregarded by a Miniſter of State,

State, conſpicuous for abilities, firmneſs and integrity; a Miniſter whom faction and ignorance may cenſure, but whom all wiſe and good men, of the preſent and of ſucceeding ages, will admire and applaud.

I am,

My Lord,

Your Lordſhip's

Moſt obedient

and humble ſervant,

John Berkenhout.

PREFACE.

THE preſent age is diſtinguiſhed by no event ſo characteriſtic as the improvement of Natural Hiſtory. There were indeed many curious naturaliſts in former times, particularly in the laſt age and in this country, to whoſe labours we owe great obligation; but for want of a clear idea of ſyſtem, their writings were confuſed, and the ſtudy of nature remained too difficult to become general. To form a regular ſcientific Syſtem of Nature was reſerved for the great, the celebrated, the indefatigable Linnæus, whoſe genius and induſtry can hardly be ſufficiently admired.

Nevertheleſs, the Linnæan Syſtem hath met with ſome opponents, and many objections have been made to particular parts of it; but this oppoſition, and theſe objections, were inſufficient to prevent its being univerſally received and adopted.

That the Syſtem is imperfect is moſt certain; but thoſe who expect perfection in a ſyſtem of Nature, are unacquainted with the ſubject. The works of the Creator are linked together in one continued perfect chain, ſo as to admit of no abſolute diviſion, and conſequently can never be reduced to a poſitive ſyſtem. All that we can expect is ſuch an artificial arrangement and diviſion of bodies into kingdoms, claſſes, orders, genera, and ſpecies, as may enable us to diſtinguiſh, with preciſion, one body from another. In this attempt Linnæus has ſucceeded much better than any preceding writer, ancient or modern; Linnæus, therefore, I have followed implicitly: I mean in regard to arrangement. But as the Natural Hiſtory of a particular country admits of more preciſion and explanation, than a general Syſtem, I have added to, and frequently varied from his deſcriptions: ſo that thoſe who may, at firſt ſight of this work, ſuppoſe it to be nothing more than a tranſlation of Linnæus, will, upon comparing it with the *Syſtema Naturæ*, find themſelves miſtaken.

Theſe volumes being intended as pocket companions for young Natualiſts in their excurſions from home, I have avoided ſwelling the work with references to the authors I have conſulted, quoting thoſe only which are either omitted, or wrong quoted, by Linnæus in his laſt edition of the *Syſtema Naturæ*: for the reſt, I muſt refer the Reader to that Work.

The remaining two volumes, containing the Vegetable and Foſſile Kingdoms will be publiſhed with convenient ſpeed.

The

The ANIMAL KINGDOM is divided into six Classes, viz.

Class I. MAMMALIA. Suckle their young.
II. BIRDS. Body covered with feathers.
III. AMPHIBIA. Lungs arbitrary.
IV. FISHES. Breathe by gills, not arbitrarily.
V. INSECTS. Two *antennæ*, or feelers.
VI. VERMES. No head.

I. MAMMALIA.

Order I. *Primates.* Four parallel fore teeth. Two pectoral *mammæ*.
II. *Feræ.* Upper fore teeth 6; canine teeth 2 in each jaw.
III. *Glires.* Fore-teeth sharp, 2 in each jaw. No canine teeth.
IV. *Pecora.* No upper fore-teeth. Under fore-teeth 8. Hoof divided. Horns.
V. *Belluæ.* Fore-teeth more than 2 in each jaw. No horns.
VI. *Cete.* No legs.

II. BIRDS.

Order I. *Accipitres.* Bill and claws arched, strong.
II. *Picæ.* Bill compressed, curved a little.
III. *Anseres.* Bill obtuse at the end. Feet webbed or finned.
IV. *Grallæ.* Legs very long.
V. *Gallinæ.* Bill convex; the upper mandible arched. Toes connected by a

membrane at the bottom. Tail-feathers more than 12.

VI. *Paſſeres.* Bill conic, pointed. Noſtrils oval, broad, naked.

III. AMPHIBIA.

Order I. *Reptiles.* Feet 4.
II. *Serpents.* No legs. No fins.
III. *Nantes.* No ſcales. Rays of their fins cartilaginous.

IV. FISHES.

Order I. *Apodes.* No ventral fins.
II. *Jugulares.* Ventral fins before the pectoral.
III. *Thoracici.* Ventral fins under the pectoral.
IV. *Abdominales.* Ventral fins behind the pectoral.

V. INSECTS.

Order I. *Coleoptera.* Wings 2, covered by 2 ſhells, divided by a longitudinal ſuture.
II. *Hemiptera.* Shells, or covers of the wings ſomewhat ſoft and incumbent on each other.
III. *Lepidoptera.* Wings 4, imbricated with minute ſcales.
IV. *Neuroptera.* Wings 4, naked, tranſparent, reticulated with veins or nerves. Tail without ſting.
V. *Hymenoptera.* Wings 4, membraneous. Tail of the female armed with a ſting.

VI. *Dip-*

VI. *Diptera.* Wings 2.
VII. *Aptera.* No wings.

VI. VERMES.

Order I. *Inteſtina.* Naked, ſimple, without limbs.
II. *Mollusca.* Simple, without ſhell; but not entirely without limbs.
III. *Teſtacea.* Incloſed in a hard ſhell moveable by the animal.
IV. *Lithophyta.* Coral.
V. *Zoophyta.* Stems vegetating and changing into animals.

THE

THE

ANIMAL KINGDOM.

CLASS I.

MAMMALIA

Suckle their Young. Quadrupeds, except the laſt Order.

Ord. I. PRIMATES.

Four parallel upper fore-teeth. Two pectoral mammæ.

HOMO. Fore-teeth ſharp-edged. Walks erect.

1. Sapiens. *Rational Man.*

VESPERTILIO. Teeth ſharp-pointed. Flies.

1. Auritus. *Long-eared Bat.* Ears double and larger than the head. Length not quite two inches.

2. Murinus. *Short-eared Bat.* Length 2 ½ inches.

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III. FERÆ.

Upper fore teeth 6, ſomewhat ſharp and conic. Canine teeth 2 in each jaw, longer than the reſt.

PHOCA. Hind legs horizontal. Feet webbed.

1. Vitulina. *Seal*, or *Sea Calf.* No external ears. Length 5 or 6 feet. Frequent on the rocky ſhores of Wales, Cornwall, and Ireland.

CANIS. Fore teeth in each jaw 6. Grinders 6 or 7. Canine teeth curved. Lateral fore teeth longer and diſtant from the reſt; the intermediate ones lobed. Five toes before, 4 behind.

1. Familiaris. *Dog.* Tail bends to the left.

Varieties. *Maſtiff*, *Hound*, *Greyhound*, *Pointer*, *Spaniel*, *Terrier*, *Shock*, *Lap-dog*, *Cur*.

2. Vulpes. *Fox.* Tail a bruſh, not bent, and tipt with white. Lips white. Fore-feet black.

FELIS. Fore-teeth equal. Grinders 6 in each jaw. Tongue rough. Claws retractile.

1. Catus. *Cat.* Tail long, annulated. Body marked with ſpiral, and 3 longitudinal ſtripes. Our tame cats are leſs in ſize, and vary in colour.

MUSTELA. Fore-teeth in each jaw 6; thoſe of the under-jaw cloſe, obtuſe, with two interior ones. Body long and ſlender. Legs ſhort. Five toes on each foot.

1. Lutra. *Otter.* Colour dark brown, with two white ſpots on each ſide the noſe. Length 3 feet 3 inches. Tail compreſſed and taper. Eyes ſmall. Ears ſhort. Long whiſkers. Feet webbed.

2. Martes. *Martin.* Colour dark brown. Throat and breaſt white, or yellow. Length 2 feet and a half. Canine teeth large. Skin and excrement ſmell like muſk. Noſe ſharp.

3. Putorius. *Polecat.* Length about two feet. Colour blackiſh tawny. Muzzle and ears white. Noſe ſharp.

4. Erminea. *Stoat*, or *Ermine.* Upper part of the body pale brown; under white. Tail tipt with black, ears and toes with white. Length 15 inches.

5. Nivalis. *Weeſel*, or *Foumart.* Upper part of the body and tail entirely tawny. Throat and belly white. Length 9 inches.

URSUS. Fore teeth in each jaw 6; upper ones excavated. Grinders 5 or 6. Body thick and clumſy. Toes 5 on each foot.

1. Meles. *Badger.* Length 2 feet and half. Upper part of the body grey; under, black.

Tail ſhort, with long ſtiff hair. Face black and white. Fore claws long. A tranſverſe orifice between the tail and the anus. Three black briſtles over each eye.

TALPA. Upper fore-teeth 6; lower 8.

1. Europæa. *Mole.* Five toes on each foot. Snout long. Eyes ſmall. Fur remarkably ſoft. No external ears. Fore legs ſhort, with broad feet turned outwards.

SOREX. Upper fore-teeth 2, bifid; lower 4; canine ſeveral.

1. Araneus. *Shrew-Mouſe.* Snout and tail long. Above brown; Beneath dirty white. Toes 5 on each foot. Eyes ſmall. Length 4 inches.

ERINACEUS. Fore-teeth 2 in each jaw; canine teeth 4 above, 3 beneath.

2. Europæus. *Hedgehog.* Five toes on each foot. Long Snout. Body covered with long ſharp briſtles. Length 11 inches.

IV. GLIRES.

Fore-teeth 2 in each jaw, remote from the grinders. No canine teeth.

LEPUS. Ears long. Tail ſhort. Upper foreteeth double. Toes 5 before, 4 behind.

1. Timidus.

1. Timidus. *Hare.* Ears tipt with black.

2. Cuniculus. *Rabbit.* Ears almoſt naked. Pupil of the eyes red.

MUS. Lower fore-teeth ſmall, pointed. Toes 4 before, 5 behind. Tail long.

1. Norvegicus. *Norway Rat.* Length to the tail 9 inches; tail 9 inches. Back tawny. Belly dirty white. Feet and legs almoſt bare. Tail ſcaly. Omitted by Linnæus.

2. Terreſtris. *Short-tail'd Field-mouſe.* Head large. Length to the tail 6 inches; tail 1 ½ inch, ending in a bruſh. Back ruſty black; belly aſh colour.

3. Amphibius. *Water Rat.* Length to the tail 7 inches; tail 5. Body covered with long hairs browniſh black. Belly grey. Tail black, white at the extremity. Ears and eyes ſmall.

4. Rattus. *Common Rat.* Tail longer than the body. On the fore feet 4 claws and a kind of thumb nail; behind 5. White whiſkers.

5. Muſculus. *Common Mouſe.* Differs very little from the Common Rat, except in being much leſs.

6. Avellanarius. *Dormouſe.* Toes 4 before, 5 behind, the interior of which wants the nail. Tail 2 ½ inches, thick ſet with hair. Colour tawny red. Throat white. Size of the common mouſe.

7. Sylvaticus. *Long-tailed Field Mouſe.* Differ from the common rat and common mouſe chiefly in being leſs than the former and larger than the latter. Back brown. Belly grey.

8. . . . . *Leſs Long-tailed Field Mouſe.* From noſe to tail 2 ½ inches; tail 2 inches. Weight ⅛ of an ounce. Ears naked. Back and belly divided by a ſtrait line on each ſide.

SCIURUS. Upper fore-teeth like wedges; lower compreſſed.

1. Vulgaris. *Squirrel.* Colour red-brown; breaſt and belly white. Ears tufted. Tail a bruſh.

IV. PECORA.

Upper fore-teeth none. Under fore-teeth 8, diſtant from the grinders. Canine teeth none. Hoof divided.

CERVUS. Horns ſolid, rough, annual.

1. Elaphus. *Stag, Red Deer,* or *Hart.* Horns round, branched, and turn backward.

2. Dama. *Buck,* or *Fallow Deer.* Horns compreſſed, branched, turned backward, and broad at the extremities.

3. Capreolus. *Roebuck.* Horns round, erect, and bifid at the extremity. Leaſt ſpecies. In the highlands of Scotland.

CAPRA.

CAPRA. Horns hollow, rough, ſimple, erect, bending backwards. Body covered with long hair.

1. Hircus. *Goat.* Horns edged on the interior ſide, round on the exterior. Long beard.

OVIS. Horns rough, hollow, ſimple, ſpiral, turning outwards. Body covered with wool.

1. Aries. *Sheep.* Horns compreſſed.

BOS. Horns ſmooth, ſimple, hollow.

1. Taurus. *Ox.* Horns round, curving upwards and outwards.

V. BELLUÆ.

Fore-teeth, in each jaw, obtuſe, truncated. No horns.

EQUUS. Fore-teeth 6 in each jaw. Hoof undivided.

1. Caballus. *Horſe.* Tail covered entirely with long hair. Ears ſhort, erect. Mane long.

2. Aſinus. *Aſs.* Long hair towards the extremity of the tail. Ears long, flaccid. A black croſs on the top of the ſhoulders.

SUS. Hoof divided. 2 tuſks in each jaw.

1. Scrofa. *Hog.* Ridge beſet with ſtrong briſtles.

VII. CETE.

Spiracula, or ſpout in the upper ſurface of the head. Pectoral ſoft fins. Tail horizontal. Copulate like quadrupeds, which they reſemble alſo in the ſtructure and uſe of their internal parts.

BALÆNA. No teeth. Spout double.

1. Myſticetus. *Whale.* No dorſal fin. Spout in the middle of the head. Under jaw much larger than the upper. Eyes very ſmall and diſtant from each other. Skin ſmooth. Belly white. The largeſt of all animals. *Dale Harw.* 409.

2. Phyſalus. *Fin-back Whale.* A dorſal fin near the tail. Body long and ſmall. Belly ſmooth. *Dale Harw.* 410.

3. Boops. *Pike-headed*, or *Sharp-noſed Whale.* Horny protuberance on the back towards the tail. Back ſmooth and ſhining. Longitudinal folds on the belly. *Dale Harw.* 410. *Sib. Obſ.* 29.

4. Muſculus. *Round-noſed Whale.* A dorſal fin. Under jaw much larger than the upper. Belly folded. *Sib. Obſ.* 33.

PHYSETER. Teeth in the under jaw.

1. Catodon. *Leſs Whale.* No dorſal fin. Spout in the noſe.

2. Ma-

2. Macrocephalus. *Sperma-ceti Whale.* No dorſal fin. Spout in the back part of the head. Double row of teeth in number 46. Length 50 or 60 feet.

3. Microps. *Sharp-toothed Whale.* Dorſal fin long. Upper maxilla longer than the under. Teeth hooked. Spout in the middle of the noſe.

4. Turſio. *Blunt-toothed Whale.* Dorſal fin very long and erect. Spout in the forehead.

DELPHINUS. Teeth in each jaw. One dorſal fin.

1. Phocœna. *Porpeſs.* Back broad and black. Belly white. Noſe ſhort, obtuſe. Teeth ſmall, acute.

2. Delphis. *Dolphin.* Body long, and nearly round. Noſe long, ſharp, with a broad tranſverſe mark. Teeth ſmall, pointed. Length 9 or 10 feet.

3. Orca. *Grampus.* Teeth obtuſe. Noſe turned a little upwards. Upper jaw much leſs than the under. Length 24 feet.

CLASS II.

BIRDS.

Body covered with Feathers.

I. ACCIPETRES.

Birds of prey. Bill and claws ſtrong, hooked. An angle in each margin of the upper mandible. Body muſcular. Females larger and more beautiful than the males.

FALCO. Bill arched from the baſe, which is covered with a wax-like membrane or cere.

1. Oſſefragus. *Sea Eagle.* Cere yellow. Colour light brown. Legs yellow and feathered half way down. Tail ſpotted with white. Claws black. In ſeveral parts of Britain and Ireland.

2. Chryſætos. *Golden Eagle.* Cere and legs yellow, feathered to the toes. Wings reach to the extremity of the tail. Beak lead colour. Irrides hazel. Colour dark brown. Weight 12 pounds. Tail clouded with dark aſh colour. In the mountainous parts of Ireland, and ſometimes in Wales.

3. Fulvus.

3. Fulvus. *Ringtail Eagle.* Reſembles the laſt in ſize and colour, but diſtinguiſhed by a broad white band acroſs the tail.

4. Albiulla. *Erne.* Bill, cere, irrides and legs pale yellow. Between the eyes bare. Head and neck aſh colour. Body dark brown. Tail white. Leſs than the former. *Lin. Syſt. Nat. Ed.* 12. p. 123.

5. Pygargus. *Hen-Harrier. Male:* cere and feet yellow. Above grey; beneath white. Weight 12 ounces. Length 17 inches. *Female:* A rough round the head. Under each eye a white ſpot. Back duſky; rump white. Belly rediſh brown. Weight 16 ounces. Length 20 inches.

6. Milvus. *Kite.* Cere and legs yellow. Head grey. Back brown. Tail forked. Flies remarkably ſteady.

7. Gentilis. *Falcon Gentle.* Cere, irrides, and feet yellow. Above deep brown. Breaſt and belly yellowiſh with longitudinal ſpots. 5 or 6 broad bars acroſs the tail. Feather of the head black edged with brown. *Sib. Scot.* II. *lib.* 3. p. 14.

8. Subbuteo. *Hobby*, or *Tree Falcon.* Cere and feet yellow. Above black brown. Beneath white, with long brown ſpots on the breaſt. Back of the neck white. Under each eye a dark longitudinal ſpot. Length 12 inches. Weight of the male 7 ounces.

9. Buteo. *Common Buzzard.* Cere and feet pale

pale yellow. Beak lead colour. Above ferruginous brown. Beneath yellowiſh white, ſpotted with brown. Tail barred with black and aſh colour, and tipt with browniſh white. Weight 32 oz. Length 22 inches.

10. Tinnunculus. *Keſtril.* Cere and feet yellow. *Male:* Head light grey: tail the ſame, with a black bar near the end and tipt with white. Back purple ſpotted with black. Weight 6 ½ oz. Length 14 inches. *Female:* Back leſs bright. Head and tail pale brown ſpotted with black. Weight 11 ounces.

11. Lanarius. *Lanner.* Cere yellow-blue. Bill and feet blue. Above deep brown. Beneath yellow-white, with brown ſpots. A white line above each eye.

12. Haliætus. *Oſprey.* Cere and feet blue. Back brown. Belly and back of the head white. A brown patch from the eye down each ſide the neck. Legs naked. Weight 62 oz. Length 23 inches.

13. Gyrfalco. *Gyrfalcon.* Cere and feet blue. Beak and legs yellow. Body white ſpotted with dark lines. Length 20 inches.

14. Apivorus. *Honey Buzzard.* Cere and bill black. Legs yellow and half naked. Head aſh colour. Back brown. Breaſt and belly white, ſpotted. Tail barred. Claws brown and not much curved. Weight 30 oz. Length 23 inches.

15. Æru-

15. Æruginoſus. *Moor Buzzard.* Cere greeniſh yellow. Body chocolate tinged with brown. Legs long and ſlender. Beak and Talons black. Weight 20 oz. Length 21 inches.

16. Palumbarius. *Gos Hawk.* Cere yellow-green. Irrides and feet yellow. Beak and talons black. Head and back deep brown. Breaſt and belly white waved with brown. A white line above the eye. Tail barred and much longer than the wings when folded. Length 22 inches.

17. Niſus. *Sparrow Hawk.* Cere green-yellow. Feet yellow. Bill blue. Claws black. Above brown, or grey. Beneath tawny white, waved with brown. Tail aſh colour, barred and tipt with white. Weight of the *male* 5 oz. *female* 9.

18. . . . . *Peregrine Falcon.* Cere, irrides, legs and feet yellow. Beak blue. Claws black. Above aſh colour barred with black and blue. Beneath white tinged with brown, with longitudinal and tranſverſe lines. Length 16 inches. Builds annually in the rocks of Llandidno in Carnarvonſh.

19. . . . . *Grey Falcon.* Cere and legs yellow. Irrides red. Fore part of the head deep brown; hind part white. Sides of the head and throat cream colour. Belly white with long black ſpots. Back deep grey. Wings folded extend

extend beyond the extremity of the tail. Legs long and naked.

20. . . . . *Merlin.* Cere and legs yellow. Bill lead colour. Above purpleiſh aſh colour with ferruginous ſpots. Beneath yellowiſh white with brown ſpots. Tail barred with brown. Length 6 ½ inches.

STRIX. Bill ſhort, hooked, without cere. Head large. A broad diſk ſurrounding each eye. Legs feathered to the toes. Tongue bifid. Nocturnal.

1. Otus. *Long-eared Owl.* Bill and claws black. Plumage red-brown variegated with white. Auricular feathers 6. Length of the female 14 inches. In the North and in Wales.

2. . . . . *Short-eared Owl.* Horns, or Ears a ſingle feather. Above brown. Beneath pale yellow. Quill feathers barred with red. Tip of the tail white. Length 13 inches and a half. *Br. Zool.* 71. 8vo. 156.

3. Flammea. *White Owl.* Above pale yellow, with white ſpots. Beneath white. Interior ſides of the quill feathers 4 black ſpots on each ſide. Edge of the middle claw ſerrated. Weight 11 ounces. Length 14 inches.

4. Stridula. *Tawny Owl.* Above tawny red, ſpotted with black and white. Beneath

neath yellowiſh with black longitudinal ſtrokes.

5. Ulula. *Brown Owl.* Above deep brown ſpotted with black and white. Beneath pale aſh colour mixt with tawny, with black ſtrokes. Diſk round the eyes aſh colour with brown ſpots.

6. Paſſerina. *Little Owl.* Not much larger than a thruſh. Irrides and bill pale yellow. Above olive brown with white ſpots. Beneath white with brown ſpots. In Yorkſhire, Flintſhire, and ſometimes near London.

LANIUS. Bill hooked towards the end, with a notch in the upper mandible. Tongue jagged.

1. Excubitor. *Great aſh coloured Butcher bird.* Bill and legs black. Tail wedged, black in the middle and white on the ſides. Crown and back aſh colour. Wings black with a white bar. Cheeks white with a black ſtroke. Weight 3 oz. Length 10 inches. Migrates.

2. Collurio. *Red-back'd Butcher Bird*, or *Fluſher.* Bill and Tail like the former. Head, rump, and legs aſh colour. Back red-brown. Beneath bloſſom. Black ſtroke acroſs the eyes. Weight 2 oz. Length 7 $\frac{1}{2}$ inches.

3. . . . . *Wood Chat.* Bill horn colour, with white feathers at the baſe. Black line croſs the eye, extending down the neck.

neck. Head and back of the neck bright bay. Back duſky. Scapulars white. Quill feathers black, with a white ſpot towards the bottom. Breaſt and belly yellowiſh white. Two middle feathers of the tail and legs black. Size like the former. *Br. Zool.* fol. 74. 8vo. 164. Migrates.

II. PICÆ.

Bill compreſſed, convex.

CORVUS. Bill ſtrong, conic, with briſtles at its baſe reflected downwards. Tongue bifid.

1. Corax. *Raven.* Above ſhining bluiſh black. Beneath duſky. Weight 3 pounds. Length 26 inches.

2. Corone. *Crow.* The whole body bluiſh black. Tail rounded. Weight 20 oz. Length 18 inches.

3. Frugilegus. *Rook.* Colour bluiſh black. Noſtrils, chin and ſides of the mouth white and bare. Somewhat larger than the laſt.

4. Cornix. *Royſton-Crow.* Back, breaſt, belly, and upper part of the neck aſh colour; the reſt bluiſh black. Weight 22 oz. Length 22 inches. Migrates.

3. Frugilegus. *Rook.* Colour bluiſh black. Noſtrils, chin and ſides of the mouth white

white and bare. Somewhat larger than the laſt.

5. Monedula. *Jackdaw.* Back of the Head, Breaſt and Belly aſh colour; the reſt black. Irides white. Weight 9 oz. Length 13 inches.

6. Glandarius. *Jay.* Head covered with long feathers. Forehead white with black ſtrokes. Neck black. Coverts of the Wings fine blue, barred with black and white. Back, Breaſt, and Belly, purple, daſhed with grey. Rump white. Tail black. Weight 6 oz. Length 13 inches.

7. Caryocatactes. *Nutcracker.* Brown, ſpotted with triangular white ſpots. Wings black. Tail black, rounded, tipt with white. Rare in this Kingdom.

8. Pica. *Magpye.* Black and white. Tail long, wedge-faſhioned and richly tinged. Weight 9 oz. Length 18 inches.

9. Graculus. *Corniſh Cough.* Purpliſh black. Bill and Legs orange. Weight 13 oz. Length 16 inches. *Cornwall*, *Flintſh.* *Caernarvonſhire*, and *Angleſea.*

CORACIAS. Bill ſharp-edged, and curved towards the apex.

1. Garrula. *Roller.* Colour greeniſh blue. Back red-brown. Bill black. Legs yellow. Tail forked. Weight 7 oz. Length 13 inches. Rare in this iſland.

CUCULUS. Bill roundiſh and curved a little. Noſtrils circular, with a raiſed margin. Tongue entire, pointed. Two fore and 2 hind claws.

1. Canorus. *Cuckoo.* Above aſh-colour. Beneath white, waved with tranſverſe black lines. Tail rounded and ſpotted with white. Weight 5 oz. Length 14 inches. Migrates.

YUNX. Bill ſhort, roundiſh, pointed. Noſtrils concave, naked. Tongue very long, cylindrical. Two fore and two hind claws.

1. Torquilla. *Wryneck.* Above aſh-colour, with black and brown ſtrokes. Beneath light brown, with black ſpots. Tail aſh-colour, with 4 black bars. Irides hazel. Weight $1\frac{1}{4}$ oz. Length 7 inches. Migrates.

PICUS. Bill angular, ſtrait. Noſtrils covered with recumbent briſtles. Tongue very long and round, with a ſharp, hard, barbed point. Two fore and 2 hind claws.

1. Viridis. *Green Woodpecker.* Crown crimſon. Back green. Rump pale yellow. Beneath pale green. Tail tipt with black. Bill lead colour. Legs and Feet greeniſh aſh-colour. Weight $6\frac{1}{2}$ oz. Length 13 inches.

2. Major.

2. Major. *Greater ſpotted Woodpecker.* Irides red. Crown of the Head black, back part crimſon. A black collar round the neck. Back and Rump black. Cheeks and Scapulars white. Breaſt yellowiſh white. Weight 3 oz. Length 9 inches.

3. Medius. *Leſs ſpotted Woodpecker.* Crown and back of the Head crimſon. Above black. Scapulars white. On each ſide the Breaſt a broad black line. Length 8½ inches. Three exterior feathers of the Tail tipt with white.

4. Minor. *Leaſt ſpotted Woodpecker.* Crown crimſon. Above black barred with white. Beneath dirty white. Weight 1 oz. Length 6 inches. In the Female the crown is white.

SITTA. Bill ſtrait, roundiſh, and compreſſed at the apex. Three fore and 1 hind Toe.

1. Europæa. *Nuthatch*, or *Woodcracker.* Upper mandible black, lower white. Crown black. Black ſtroke acroſs the Eyes. Cheeks and Chin white. Coverts of the Wings bluiſh aſh-colour. Beneath dull orange. Legs pale yellow. Twelve feathers in the Tail. Weight 1 oz. Length 6 inches.

ALCEDO. Bill triangular, thick, ſtrait, long. Tongue ſhort, ſharp.

1. Ispida. *Kingfisher.* Bill, upper mandible black, under yellow. Crown and Coverts of the Wings dark green, spotted with blue. Scapulars and Coverts of the Tail bright azure. Beneath orange. Tail deep blue. Feet orange. Weight $1\frac{1}{4}$ oz. Length 7 inches.

UPUPA. Bill arched, convex, and somewhat obtuse.

1. Epops. *Hoopoe.* Crest orange, tipt with black, 2 inches long. Bill and Legs black. Neck tinged with red. Beneath white. Above barred with black and white. Rump white. Tail of 10 feathers black and white. Migrates.

CERTHIA. Bill arched, slender, and somewhat angular. Tongue sharp.

1. Familiaris. *Creeper.* Above brown, streaked with black. Quills tipt with white. Beneath white. Tail of 12 long feathers. Weight 5 drams. Length $5\frac{1}{2}$ inches.

III. ANSERES.

Bill obtuse, covered with a thin membrane, broad, gibbous below the base, swelled at the apex. Tongue fleshy, Legs naked, Feet webbed, or finned.

ANAS.

ANAS. Bill convex above, flat beneath, hooked at the apex, with membraneous Teeth.

1. Cygnus. *Wild Swan.* Cere yellow. Bill black. Plumage white. Legs and Feet brown.

   Manſuetus. *Tame Swan.* Cere knotty and black. Bill red, tipt with black. Feet lead colour. Larger than the former.

2. Tadorna. *Sheldrake*, or *Burrough Duck.* Bill red. Head dark green. Neck and Back white. Scapulars black. Breaſt orange. Belly white, divided by a longitudinal black line. Tail white, tipt with black. Legs pale red. Weight 2lb. 10oz. Length 2 feet. On the ſea coaſt.

3. Fuſca. *Velvet Duck.* Bill broad and ſhort, ſides yellow, hook red, and a black tubercle at the baſe. Plumage black, with a white ſpot behind each Eye, and on each Wing. Legs red; Webs and Nails black. *Female:* deep brown.

4. Nigra. *Scoter*, or *black Diver.* Plumage entirely black. Bill black, yellow in the middle, with two large red tubercles at the baſe. The Sorbonne pronounced this bird to be a fiſh, and therefore might be eaten in Lent.

5. Marila. *Scaup Duck.* Bill lead colour. Head, Neck, Breaſt, and Tail black. Belly white. Back grey. Leſs Quills white

tipt with black. This ſpecies varies greatly in colour.

6. Anſer. *Gooſe.* In its wild ſtate, above brown, Beneath white. A white ring round the Tail. Bill narrow, middle red, baſe and hook black.

7. Erythropus. *White-fronted Wild Gooſe.* Bill orange, thicker and larger than the laſt. Forehead white. Crown brown. Breaſt aſh-colour. Belly white, with large black ſpots. Back grey. Tail black. Legs orange.

8. . . . . *Barnacle.* Bill black. A black line from the Bill to the Eyes. Forehead and Cheeks white. Back of the Head, Neck, and Shoulders black. Back grey. Belly white. Tail and Legs black. Frequent in Winter on the north-weſt coaſt.

9. Bernicla. *Brent Gooſe.* Head, Neck, Tail, Quills, Legs black. Breaſt, Scapulars and Coverts of the Wings aſh-colour. Frequent in *Ireland*, where they are called Bernacles.

10. Moliſſima. *Eider Duck.* Bill, Forehead, Belly, Tail, and Quills black. Crown, Cheeks, Neck, Back, Coverts of the Wings and Scapulars white. A black bar acroſs the Eyes. A green ſtain on the back of the Neck. Legs green.

11. Clypeata. *Shoveller.* Bill black, and very broad at the end. Irides hazel. Head dark green. Breaſt and Scapulars white. Back

Back brown. Coverts of the Wings blue. Tail of 14 feathers, exteriors white, thoſe in the middle black, edged with white. Vent feathers black. Legs red. Weight 22 oz. Length 22 inches.

12. . . . . *Red-breaſted Shoveller.* Bill large, broad, ſerrated, brown-yellow. Head large. Eyes ſmall; Irides yellow. Breaſt red-brown. Back brown. Wings, quills brown, the reſt grey, ſpot purple, edged with white. Tail white. Feet red-brown. Size of a common Duck. *Lincolnſhire.*

13. Strepera. *Gadwall.* Bill black. Head brown, ſpotted with black. Breaſt, Back, and Scapulars marked with black and white lines. Belly dirty white. Rump black. Tail aſh-colour, edged with white. A white ſpot on the Wings. Legs orange.

14. Clangula. *Golden Eye.* Bill, Back, Tail, and Coverts of the Wings black. Beneath white. Middle of the Wings white, the reſt black. A white ſpot on each ſide the Mouth. Legs orange. Weight 2 pounds. Length 19 inches. Sea coaſt, and on the lakes in *Shropſhire.*

15. Penelops. *Wigeon.* Bill lead-colour tipt with black. Head bright bay. Back waved with black and white. Breaſt purpliſh. Belly white. Vent black. Middle quills green, tipt with black. Tail, 2 middle feathers black, longer,

pointed; the reſt aſh-colour. Weight 23 oz. Length 20 inches.

16. Glacialis. *Swallow-tail'd Sheldrake.* Bill, baſe and tip black, middle orange. Neck, Scapulars, Belly, and exterior feathers of the Tail white. Breaſt and Back chocolate colour. Four middle feathers of the Tail black, and 4 inches longer than the reſt. On our coaſts in hard winters only.

17. Ferina. *Pochard*, or *Dun Bird.* Bill and Legs lead-colour. Head and Neck bright bay. Breaſt and upper part of the Back black. Above grey, with black lines. Belly aſh-colour. Tail of 12 feathers dark grey. Weight 28 oz. Length 19 inches.

18 . . . . . *Ferruginous Duck.* Bill and Legs pale blue. Plumage red-brown. Webs black.

19. . . . . *Grey-headed Duck.* Bill and Legs yellow-brown. Irides gold colour. Head and Breaſt grey. Neck and Belly white. Back, Wings, and Tail black.

20. Querquedula. *Gargancy.* Bill and Legs lead colour. Black ſpot on the chin. A white line from the corner of each Eye. Cheeks and upper part of the Neck pale purple, with ſmall white lines. Breaſt brown, with black curved lines. Belly white. Exterior webs of the middle quills green.

21. Crecca.

21. Crecca. *Teal.* Bill and Vent feathers black. Head bay, with a green and a white line on each ſide. Beneath dirty white. A green and a black ſpot on the Wings. Coverts of the Wings brown. Tail pointed. Weight 12 oz. Length 17 inches.

22. Boſchas. *Mallard, Wild or Tame Duck.* Bill green-yellow. Head and Neck green. An imperfect white circle round the Neck. Beneath grey. Scapulars white, barred with brown. Spot on the Wings purple. Tail of 24 feathers, 4 middle ones black, and curled upwards in the Male.

23. Fuligula. *Tufted Duck.* Bill and Legs lead-colour. Creſt pendent. Belly and middle Quills white. The reſt of the Plumage black. Weight 2lb. Length 15 inches. Female wants the creſt.

MERGUS. Bill long, roundiſh, taper, ſerrated and hooked at the apex. A Creſt on the Head. Migrate.

1. Merganſer. *Gooſander. Male:* Bill, Irides and Legs red. Head green-black. Neck Breaſt, and Belly, pale yellow. Wings and Tail black and white. Weight 4lb. Length 2 feet 4 inches.

Dun Diver, Female: Head ferruginous. Back and Tail aſh-colour. Leſs than the Male.

2. Serrator.

2. Serrator. *Leſs Dun Diver.* Lower Mandible and Irides red. Head red-brown. Throat and Belly white. Breaſt and ridge of the Wings, Scapulars, Back, and Tail aſh-colour. Wings black and white. Weight 2 lb. Length 21 inches.

3. Albellus. *Smew*, or *White Nun.* Bill and Legs lead-colour. A long Creſt. Above black and white. Beneath white. Head and Neck white. A green-black ſpot on each ſide the Head. Tail aſh-colour. Weight 34 oz. Length 18 inches.

Lough Diver. Female: Leſs than the Male. Head ferruginous. Breaſt clouded with grey.

4. Minutus. *Red-headed Smew.* Bill lead-colour. Head red-brown, with a ſmall Creſt, and a black ſpot on each ſide. Cheeks, Throat, and Belly white. Back Tail and Legs aſh-colour. Wings black and white. Weight 15 oz. Length 16 inches.

ALCA. Bill ſhort, compreſſed, convex, furrowed tranſverſely, and not ſerrated. No back Toe.

1. Torda. *Auk.* Bill, Head, Throat, Back, Tail, Legs black. Tips of the Wings and Belly white. A white line from the Eyes to the Bill. On the upper Mandible 4 grooves, on the under 3. Weight 22 oz. Length 18 inches.

2. Pica. *Black-bill'd Awk.* Cheeks, Chin, and Throat white. In other reſpects like the former. Weight 18 oz. Length 15 inches.

3. Impennis. *Great Awk*, or *Pinguin.* Wings very ſhort. A white ſpot between the Eyes and Bill. Under ſide of the Body and tips of the Wings white; the reſt black. Length to the end of the Toes 3 feet. On the iſle of St. *Kilda.*

4. Arctica. *Puffin.* Bill compreſſed, triangular, ſharp-pointed, red, baſe grey, furrows 4. Noſtrils long and narrow. Eye-lids callous, edges crimſon. Above black. Cheeks, Chin, Belly white. Collar black. Legs orange, and near the Tail. *Prieſtholm iſles. Angleſey. Man.* Migrates.

5. Alle. *Little Awk.* Bill ſhort, conic, black. Above black. Beneath, and tips of the leſs Quills white. Scapulars black and white. Legs and Feet ſcaly, Webs black. Size of a Blackbird. *Lancaſhire.*

PROCELLARIA. Bill compreſſed, hooked at the end. Noſtrils tubular. Back Toe ſeſſile. Spout oil from their Bills. Migrate.

1. Pelagica. *Stormfinch.* Black. Coverts of the Tail and Vent white. Wings very long. Size of the Swallow.

2. Glacialis

2. Glacialis. *Fulmar.* Bill and Legs yellow. Head, Neck, Breaſt, Belly white. Above aſh-colour. Length 18 inches. *St. Kilda.*

3. Puffinus. *Shear-Water.* Head, Back, Wings, Tail, Thighs black. Beneath white. Legs weak, compreſſed. Length 17 inches. *Calf of Man.*

PELECANUS. Bill ſtrait, hooked at the end; without noſtrils. Four Toes connected by a membrane.

1. Carbo. *Corvorant.* Bill aſh-colour, with a yellow naked ſkin round the baſe. Head and Neck black. Chin white. A ſhort pendent Creſt. Above bluiſh green. Beneath duſky. A white tuft on the Thighs. Tail long and rounded. Legs black; the middle claw ſerrated. Weight 4lb. Length 32 inches.

2. Graculus. *Shag.* Long creſt. Above green. Beneath browniſh grey. Tail of 12 feathers, rounded. Feet black. Length 27 inches. *Holyhead.*

3. Baſſanus. *Gannet*, or *Soland Gooſe.* Bill bluiſh grey. Jagged at the ſides; a long furrow in the upper Mandible. Eyes yellow, ſurrounded by a blue ſkin. A black pouch under the Chin. Neck long. Crown buff colour. Wings and Legs black. The reſt of the plumage dirty white. Tail rounded. Weight $4\frac{1}{2}$lb. Length 37 inches.

COLYMBUS. Bill ſtraight, ſlender, pointed. Noſtrils linear, at the baſe of the Bill. Legs near the Tail. Feet webbed.

1. Grylle. *Black Guillemot*, *Greenland Dove*, or *Sea Turtle*. Bill black. Inſide of the Mouth and Legs red. A large white ſpot on each Wing. Small Quills tipt with white. The reſt of the plumage black. Length 14 inches. *St. Kilda*. and *Baſs Iſle*.

2. Trolle. *Guillemot*. Bill black. Inſide of the Mouth yellow. Tips of the ſmall Quills, Breaſt, and Belly white. The reſt black. Weight 24 oz. Length 17 inches.

3. Septentrionalis. *Red-throated Diver*. Above grey. Beneath white. A few white ſpots on the Back. Throat dull red. Weight 3lb. Length 2 feet. *Lancaſhire*; river *Dee*.

4. Glacialis. *Great Northern Diver*. Beneath white. A ſemilunar white ſpot on the back of the Neck, and under the Throat. All the reſt black; a purple tinge on the Neck. Length 3 feet 5 inches.

Feet finned.

5. . . . . *Grey ſpeckled Diver*. Bill turns a little upwards. Above grey, ſpeckled with white. Beneath white. Tail of 20 black feathers, ſome tipt with white.

6. Criſtatus. *Great-creſted Grebe*. A pendent ruff under the Chin. No Tail. Above black.

black-brown. Beneath ſilver-white. Weight 2 ½ lb. Length 21 inches. *Shropſhire*, *Cheſhire*.

7. Auritus. *Leſs creſted Grebe or Dobchick.* Above black-brown. Beneath white. Head and Neck black. Ridge and tips of the Wings white. A tuft of long feathers on each ſide the Head. Legs green. Irides red. Leſs than a Teal.

8. . . . . *Little Grebe.* Above, Neck, Breaſt dark red-brown. Belly, aſh-colour mixt with ſilver-white. Cheeks bright bay. Weight 7 oz. Length 10 inches.

9. Urinator. *Grebe.* Above black-brown. Beneath ſilver-white. Length 18 inches. Ridge of the Wings and tips of the ſmall Quills white.

10. . . . . *White and Duſky Grebe.* Above black-brown. Beneath white. Ridge of the Wings and middle Quills white. A red ſkin between the Bill and the Eyes. Irides red. Feet externally greeniſh. Size of a Teal. *Lincolnſhire.*

LARUS. Bill ſtraight, ſharp-edged, hooked at the end, a knob on the lower mandible. Noſtrils narrow, in the middle of the Bill. Feet webbed.

1. Tridactilus. *Tarrock.* Bill, tips of the Wings, and tip of the Tail black. Head, Neck, Breaſt, Belly, and Tail white. A black creſcent on the back of the Neck. Back bluiſh grey. Legs dull aſh-colour.

lour. A ſmall protuberance in lieu of a back Toe. Weight 7 oz. Length 17 inches.

2. Canus. *Common Gull, Mew,* or *Sea Mall.* Bill yellow. Back grey. The reſt white. Weight 12 oz. Length 17 inches.

3. Nævius. *Brown and White Gull, Wagel,* or *Dung Hunter.* Bill and Quills black. Tail black and white. The reſt of the plumage a mixture of aſh-colour, white and brown. Weight 32 oz. Length 23 inches.

4. . . . . *Winter Mew.* Irides hazel. Bill ſlender, whitiſh towards the baſe, black at the end. Back grey. Coverts of the Wings pale brown. Firſt Quill black. A black bar acroſs the Tail. The reſt white; above ſpotted with brown. Weight 15 oz. Length 18 inches.

5. Marinus. *Great Black and White Gull.* Bill and Irides yellow; a red ſpot, with a black center in the lower mandible. Back and Wings black; all the reſt white. Weight 5lb. Length 29 inches.

6. Fuſcus. *Herring Gull.* Irides and Bill yellow; an orange ſpot on the lower mandible. Back aſh-colour. Quills black. The reſt white. Legs pale red. Weight 30 oz. Length 23 inches.

7. Ridibundus. *Pewit Gull, Black-cap or Sea Crow.* Bill and legs red. Head, Throat, and

and tips of the Wings black. Back and Wings aſh-colour. The reſt white. Its note a hoarſe laugh. Weight 10 oz. Length 15 inches. *Staffordſhire.*

8. Paraſiticus. *Artic Gull.* Crown and legs black. Above brown. Beneath white. Tail of 12 feathers, 2 middle ones 4 inches longer than the reſt. *Galway.*

9. Cataractes. *Skua.* Cere black. Bill and Claws very ſtrong and hooked. Above brown. Beneath aſh-colour and red. A bird of prey.

10. . . . . *Black-toed Gull.* Bill black, Cere brown. Legs lead-colour. Above black and white. Beneath white and brown. Tail 12 black feathers tipt with white; 2 middle ones longer. Weight 12 oz. Length 15 inches.

STERNA. Bill ſtraight, ſlender, pointed. Noſtrils narrow, on the baſe of the Bill. Tail forked. Feet webbed. Migrate.

1. Hirundo. *Greater Tern*, or *Sea Swallow.* Bill and Feet red. Crown, and tip of the Bill, black. Above grey. Beneath white. Weight 4 oz. Length 14 inches.

2. Minuta. *Leſs Tern.* Bill and Legs yellow. Tip of the Bill and Crown black. A black line between the Eyes and Bill. Above grey. Beneath white of exquiſite

ſite gloſs and ſoftneſs. Tail white. Weight 2 oz. Length 8 ½ inches.

3. Feſſipes. *Black Tern.* Head and under ſide of the body black. Above dark aſh colour. Legs red. Leſs than the former. Frequents freſh water.

IV. GRALLÆ.

Bill roundiſh. Tongue entire, fleſhy. Thighs naked. Toes divided.

ARDEA. Bill ſtrait, long, acute. Toes 4.

1. Cinerea. *Common Heron.* Bill greeniſh above, yellowiſh beneath, black at the end. A ſhort pendent creſt. Above grey. Beneath white, with longitudinal ſpots. A greeniſh naked ſkin between the Bill and the Eyes. Irides yellow. Quills black. Legs greeniſh.

2. Major. *Creſted Heron.* A long pendent black creſt. Forehead and Crown white. Feathers of the fore part of the Neck long and looſe. Otherwiſe like the former; but not ſo frequent.

3. Stellaris. *Bittern.* Bill a little arched. Irides yellow. Crown black. A ſhort pendent Creſt. A black ſpot at each corner of the Mouth. Plumage pale dull yellow, ſpotted with black. Feathers of the breaſt long and looſe. Legs greeniſh. Hind claw very long.

4. Alba. *Great white Heron.* Entirely white. Legs black. Weight 40 oz. Length 40 inches. Migrates.

5. Minuta. *Little Bittern.* Bill green-yellow. Head, Back, Quills, Tail greeniſh-black. Fore part of the Neck, Breaſt, and Thighs buff. Belly white. Thighs feathered to the knees. Length 15 inches. *Shot near Shrewſbury.*

SCOLOPAX. Bill very long, ſlender, obtuſe.

Arched Bills.

1. Arquata. *Curlew.* Bill 6 inches long. Plumage white ſpotted with black. Quills black. Tail white barred with black. Legs bluiſh grey. Weight from 22 to 37 oz.

2. Phæopus. *Whimbrel.* Bill not quite 3 inches long. Above brown ſpotted with black. Beneath white. Tail barred with black. Legs dull green. Weight not exceeding 12 oz.

Strait Bills.

3. Ruſticola. *Woodcock.* Bill 3 inches long. Above variegated with red-brown, black and grey. Beneath dirty white, with tranſverſe dark lines. Chin yellow. Weight 12 oz. Length 14 inches.

4. Gallinago. *Snipe.* Bill 3 inches. Four black and 3 red longitudinal lines on the head. Chin, Breaſt, and Belly white. Neck

Neck red and brown. Scapulars black and yellow. Tail tipt with white. Legs pale green. Weight 4 oz. Length 12 inches.

5. Gallinula. *Jackſnipe.* Bill 1½ inch. Crown black. Rump ſhining purple. Over each eye a yellow ſtroke. Weight ſcarce 2 oz. Length 9 inches.

6. Glottis. *Greenſhank.* Bill 2½ inches; upper Mandible black. Above aſh colour. Beneath white. Tail white, undulated with duſky bars. Legs greeniſh and bare above the knees. Weight 6 oz. Length 14 inches.

7. . . . . *Spotted Redſhank.* Above aſh colour, the Head ſtreaked with black, the Back ſpotted with white. Beneath white. Legs red. Size of the laſt.

8. Calidris. *Redſhank.* Bill 2 inches, red at the baſe, black at the end. Head, back of the Neck and Scapulars duſky aſh colour ſpotted with black. Back and underſide of the body white, ſpotted with black. Tail barred with black and white. Legs orange. Weight 5½ oz. Length 12 inches.

9. Limoſa. *Leſs Godwit.* Bill a little curved upwards, rediſh at the baſe. Head olive brown. Neck aſh colour. Back brown. A white creſcent on the tail, which is ſomewhat forked. Legs black.

10. Laponica. *Red Godwit.* Bill a little curved upwards, yellow at the baſe, black at the point. Plumage red-brown, ſtreaked with black. Wings and Tail black and white. Legs black.

11. Ægocephala. *Godwit*, or *Yarwhelp.* Bill ſtrait, 4 inches long, purple tipt with black. A broad white ſtroke from the bill to the eye. Above red-brown. Beneath white. Quills black. Tail barred with black and white. Middle and exterior toe connected by a membrane. Weight 12 oz. Length 16 inches.

TRINGA. Bill roundiſh, ſtrait, about the length of the head. Noſtrils narrow. Toes 4.

1. Pugnax. *Ruff.* Feathers of the Neck remarkably long. Coverts of the Wings and 4 exteriors of the Tail brown. Four middle feathers of the Tail barred with black and brown. Legs yellow. Weight 5 or 6 oz.

Female, *Reeve.* Brown ſpotted with white or aſh colour. No ruff. Legs red. Theſe birds differ remarkably in their colours. Migrate.

2. Vanellus. *Lapwing*, or *Tewit.* Bill, Crown, Creſt, Throat black. A black line under each Eye. Back purpliſh green. Wings and Tail black and white. Legs red. Weight 8 oz. Length 13 inches.

3. Mo-

3. Morinella. *Turnſtone.* Bill ſtrong, a little prominent above, whitiſh at the baſe, black at the end. Forehead and Throat aſh colour. Neck and Back brown. Rump white with a triangular black ſpot. Tail black and white. Legs orange. Size of a Thruſh. *Shropſhire, Cornwall, Wales, Norfolk.*

4. Macularia. *Spotted Sandpiper.* Bill red, black at the point. Above olive brown, with black ſpots. Beneath white with dark ſpots. Above each Eye a white line. Quills black, the leſs tipt with white. Middle of the tail brown, ſides white and ſpotted. Legs pale dull red. Weight 5 oz. Length 10 inches. Migrates.

5. . . . . *Black ſpotted Sandpiper.* Bill ſhort, obtuſe, blackiſh. Noſtrils black. Irides yellow. Head and under ſide of the body white ſpotted with black and brown. Above tinged with brown. Quills black with a white croſs line. Two middle feathers of the Tail black, the reſt white. Legs long and brown. *Lincolnſhire.*

6. Lobata. *Grey ſcollop-toed Sandpiper.* Bill black with a double groove. Head and under part of the Body white. Above grey. Legs lead colour. Toes finned, ſcolloped, ſerrated. Weight 1 oz.

7. Hyperborea. *Red ſcollop-toed Sandpiper.* Bill ſtrait, ſlender, round, pointed, black. Crown black-red. Neck red. Above

brown, with yellow ſpots. Beneath white. Wings long, tipt with white. Toes ſcolloped like the laſt. Size of a Blackbird. *Yorkſhire.*

8. Alpina. *Dunlin.* Bill, Legs, Feet black. Above red-brown. Beneath white with black ſpots. Wings aſh colour. Back Toe very ſhort. Length 8 inches.

9. Ocrophus. *Green Sandpiper.* Head brown-aſh colour. Above green with white ſpots. Belly, Rump, Tail white, with a few black ſpots. Bill and Legs greeniſh lead colour. Length 8½ inches. Frequents lakes and rivers.

10. Hypoleucos. *Sandpiper.* Bill, Head, Quills brown. Neck dark aſh colour. Back brown mixt with green, with tranſverſe duſky lines. Longitudinal black lines on the Head. A white ſtroke above each Eye. Beneath white. Legs greeniſh. Weight 2 oz. On lakes and rivers.

11. Canutus. *Knot.* Bill deep aſh colour. Under ſide of the Body, edges of the Wing-coverts, and ſides of the Tail white. The reſt brown. Tail-coverts ſpotted with white. Tail aſh colour. Legs bluiſh grey. Toes divided to the bottom. Length 9 inches. On our coaſt in Winter.

12. . . . . *Aſh coloured Sandpiper.* Breaſt and Belly white. The reſt aſh colour, the Head ſpotted with black, the Tail barred, and the Back curved with black and

and white. Legs black-green. Toes bordered with a ſcolloped membrane. In flocks on the *Welſh* coaſt in Winter.

13. Cinclus. *Purre*, or *Stint*. Bill ſlender, black. Head, Neck, Back, Tail aſh colour. Coverts dark brown. Breaſt, Belly, and lower part of the Quills white. Legs greeniſh. Length 7 inches. In flocks on our coaſts in Winter.

CHARADRIUS. Bill ſtrait, roundiſh, obtuſe. Noſtrils narrow. Toes 3.

1. Hiaticula. *Sea Lark*. Bill orange tipt with black. Forehead, Breaſt, Belly white. Cheeks black. A black line from the bill to each eye; another from one eye to the other. Crown of the Head brown. A black and a white Collar. Back and Tail brown. Legs yellow. Weight 2 oz. Length $7\frac{1}{2}$ inches. On our ſhores in Summer.

2. Morinellus. *Dottrel*. Bill, Head, ſhafts of the Quills, Belly, tip of the Tail, Legs black. A broad white line above the Eyes. Cheeks, Throat, Thighs white. Breaſt and ſides orange. The reſt olive. Weight 4 oz. Migrates.

3. Pluvialis. *Green Plover*. Bill, Head, Back, Legs black. Breaſt brown. Belly white. Upper part of the body and breaſt ſpotted with green. Tail barred with black, green, and brown. Weight 9 oz. Length 11 inches. Migrates.

4. Calidris. *Sanderling.* Bill and Legs black. Head and back of the Neck aſh colour, with long black ſpots. Back browniſh grey. Beneath white. Tail of 12 pointed feathers aſh colour. Coaſt of *Cornwall.*

5. Oedicnemus. *Norfolk Plover.* A yellowiſh green bare ſpace between the Eyes. Irides and Legs yellow. Above black. Beneath white. Knees ſwollen. Toes bordered by a membrane. Weight 18 oz.

6. Himantopus. *Long Legged Plover.* Bill black 2 inches long. Legs red, very long and ſlender. Wings extend beyond the Tail. Forehead, Breaſt, Belly, Tail white. Crown, Back, Wings black. *Scotland.*

RECURVIROSTRA. Bill curved upwards, flexible at the apex. Three Toes, webbed.

1. Avocetta. *Avoſetta.* Bill $3\frac{1}{2}$ inches long. Above black and white. Beneath white. Legs blue and very long. Thighs naked. Frequent on our Eaſtern coaſt.

HÆMATOPUS. Bill compreſſed, obtuſe. Toes 3, the middle connected to the exterior as far as the firſt joint.

1. Oſtralegus. *Sea Pie.* Bill 3 inches, orange. Irides crimſon. Tongue very ſhort. Head,

Head, Neck, Shoulders black. Wings and Tail black and white. Beneath white. Legs pale red. Weight 16 oz. Length 17 inches. Frequent on the coaſt.

FULICA. Bill ſhort, thick, convex. Forehead bare. Toes 4, finned. On Lakes and Rivers.

1. Atra. *Coot.* A thick, callous, red membrane above the Bill. Bill and Legs olive; Garter yellow. Belly aſh colour. Margin of the Wings white. The reſt black or very dark aſh colour. Weight 26 oz. Toes ſcolloped.

2. Aterima. *Greater Coot.* Callus white. Garter red. Darker coloured and larger than the laſt.

3. Chloropus. *Water Hen.* Callus, Irides, upper part of the Bill and Garters red. Head, Neck, Breaſt black. Belly deep aſh colour. Margin of the Wings white. The reſt gloſſy olive brown. Fins of the Toes ſtrait, narrow. Weight 15 oz. Length 14 inches.

RALLUS. Bill compreſſed, ſharp. Noſtrils oval. Toes 4. Body compreſſed.

1. Crex. *Land Rail.* Bill and Legs grey. Above black edged with light brown. Beneath white. Legs very long. Weight 7 oz. Frequent in *Ireland* and *Angleſea*.

2. Aqua-

2. Aquaticus. *Water Rail.* Bill ſlightly arched, ſlender, above black, beneath orange. Above black, the feathers edged with olive brown. Beneath aſh colour. Baſe of the Wings white. Tail ſhort. Legs rediſh, and near the Tail. Weight 4½ oz. Length 12 inches.

3. Porzana. *Small ſpotted Water Hen.* Bill and Legs olive. Head brown ſpotted with black. Neck deep olive ſpotted with white. Back variegated with black, olive and white. Beneath aſh colour and white. Weight 4½ oz. Length 9 inches. *Lincolnſhire.*

OTIS. Bill ſtrong and a little hooked. No back Toe.

1. Tarda. *Buſtard.* On each ſide the lower Mandible a tuft of long Feathers. Bill and Legs greyiſh brown. Irides bright orange. Head and Neck aſh colour. Back and Tail barred with black and red-brown. Quills black. Beneath white. Weight 25lb. Length 4 feet. The Female is much leſs, and wants the long Feathers from the Bill.

V. GALLINÆ.

Bill convex: the upper Mandible arched. Toes connected by a membrane at the bottom. Tail-feathers more than 12.

PHA-

PHASIANUS. Cheeks naked, ſmooth. Spurs on the legs.

1. Colchicus. *Pheaſant.* Bill horn colour. Cheek-membrane bright red. A tuft of black feathers near the Ears. Head and Neck tinged with rich green-purple. Beneath brown. Tail of 18 Feathers, long and of various colours. A ſharp ſhort ſpur. Weight 45 oz. Length 36 inches. The Pheaſant, tho' lately introduced, now breeds ſpontaneouſly in this iſland.

TETRAO. A bare ſcarlet ſpot above the Eyes.

Legs feathered to the Feet.

1. Urogallus. *Cock of the Wood*, or *Mountain.* Bill yellow. Above ſtreaked with tranſverſe back and grey lines. Breaſt green. Belly black, with a few white ſpots. A white ſpot on the Scapulæ. Tail of 18 black feathers, with a few white ſpots. Length 32 inches. Weight 13lb. *Female:* Leſs. Throat red. Belly orange. Tail brown barred with black. *In the Highlands of Scotland.*

2. Tetrix. *Black Game*, or *Heath Cock.* Plumage black. A white ſpot on the Shoulders. Tail of 16 Feathers, forked. Thighs and Legs dark brown. Weight near 4lb. Length 22 inches. *Female:* Plumage mixt with red. Weight 2lb.

3. Lagopus.

3. Lagopus. *Ptarmigan*, or *White Game*. In Summer pale brown with dark ſpots. In Winter white. Feathered to the claw. Tail of 16 Feathers. Weight 14 oz. Length 16 inches. *In the Highlands of Scotland.*

4. . . . . *Grous*, *Red Game*, or *Moor Game*. Bill black. Irides hazel. A white ſpot on each ſide the lower Mandible. Throat red. Head and Neck tawny red, mixt with black. Back red, with black ſpots. Beneath purpliſh brown, ſtreaked with dark lines. Tail of 16 Feathers. Thighs pale red. Legs feathered to the Claws. Weight 19 oz. Length 15 inches. *Female:* Belly ſpotted with white. Weight 15 oz.

Legs Naked.

5. Perdix. *Partridge*. Bill white. Plumage orange, black and brown. A ſemilunar mark on the Breaſt. Tail of 18 feathers. Weight 15 oz. Length 13 inches. *Female* leſs.

6. Coturnix. *Quail*. Bill duſky. Head black. a yellowiſh line from the Crown to the Back. Chin and Throat whitiſh. Breaſt pale orange ſpotted with black. Back black and yellow. Tail of 12 feathers black and red. Length 7 inches. Migrates.

VI. PAS-

VI. PASSERES.

Bill conic, pointed. Noſtrils ovale, broad, naked

COLUMBA. Bill ſtrait, a little bent at the apex. Noſtrils oblong, half covered by a ſoft tumid membrane. Tongue entire.

1. Oenas. *Pigeon*, or *Stock Dove.* Plumage deep bluiſh aſh colour. Breaſt tinged with purple-green. Two black bars on the Wings, and one near the end of the Tail. Back white. All our tame Pigeons are varieties of this ſpecies.

2. Palumbus. *Ring Dove.* Above bluiſh aſh colour. Breaſt tinged with purple. Belly dirty white. On the back of the Neck a ſemicircular white line. Weight 20 oz. Length 18 inches.

3. Turtur. *Turtle Dove.* Bill bluiſh brown. Irides yellow. Crown and Back aſh colour mixt with olive. On the ſides of the Neck a black ſpot edged with white. Wings brown. Breaſt purple mixt with yellow. Belly white. Circle round the eyes, and feet red. Claws black. Length 12 inches. *Bucks, Glouceſt. Shropſh. Weſt of Engl.*

ALAUDA. Bill ſubulate. Tongue biſid. The hind Claw not much bent, and longer than the Toe.

1. Ar-

1. Arvenſis. *Sky Lark.* Lower Mandible, ſpot above the Eyes, ſoles of the Feet and under ſide of the Body yellow. Head and Breaſt ſpotted with black. Exterior web of the Quills edged with white. Weight 1 ½ oz. Length 7 inches. Sings flying.

2. Pratenſis. *Tit Lark.* Bill, ſpots on the Head, Breaſt and Back black. Above greeniſh brown. Breaſt yellow. Throat and Belly white. Sides of the Tail white. Length 5½ inches.

3. . . . . *Leſs Field Lark.* Head and back of the Neck pale brown with dark lines. Back and Rump dirty green. Coverts of the Wings, firſt Quill, and ſides of the Tail white. Hind Claw ſhorter. Legs brown. Larger than the laſt.

4. . . . . *Red Lark.* Above brown. Beneath red-brown with dark ſpots. Sides of the Tail white. A dark line acroſs the Eyes, and above that a yellowiſh one. The third Quill long. Back Claw not very long. Size of the laſt. *Middleſex.*

5. . . . . *The leſs Creſted Lark.* Above brown. Beneath whitiſh. Creſt long. Feet red. Leſs than the Sky Lark. *Yorkſhire.*

6. Arborea. *Wood Lark.* A white ring round the Head. Crown, Throat and Back ſpotted with black. Breaſt tinged with red. Belly white. Tail black edged with white.

white. Leſs than the Sky Lark. Sings flying.

7. Trivialis. *Graſshopper Lark.* Above green-brown ſpotted with black. Beneath yellow-white. Tail of 12 Feathers. long and rounded. Legs whitiſh. Leſs than the Tit Lark. *Shropſhire.*

8. . . . . *Willow Lark.* Above yellow-brown, with dark ſpots. Beneath yellow-white. Tail dark brown.

STURNUS. Bill ſtrait, ſubulate, and ſomewhat angular.

1. Vulgaris. *Stare or Starling.* Bill yellow, depreſſed; the baſe of the lower Mandible furrowed on each ſide. A prominent margin round the Noſtrils. Tongue bifid, horny. Irides hazel. Plumage black tinged with green-purple; tips of the Feathers yellowiſh. Legs and Feet rediſh black.

2. Cinclus. *Water Ouzel.* Bill compreſſed, black. Eyelids white. Above brown. Throat and breaſt white. Belly red-brown. Tail black. Legs bluiſh before; behind black. Weight $2\frac{1}{2}$ oz. Length 7 inches.

TURDUS. Bill roundiſh, ſharp-edged: upper Mandible notched, and bent at the apex. Noſtrils naked, and half covered by a membrane.

1. Viſcivorus. *Miſſel Bird.* Above brown-grey. Beneath yellow-white, with dark ſpots. Irides hazel. Tail of 12 Feathers, exteriors tipt with white. Inner Coverts of the Wings white. Weight 5 oz. Length 11 inches. Our largeſt ſinging bird.

2. Pilaris. *Fieldfare.* Bill yellowiſh tipt with black. Head and Rump aſh colour. Back deep brown. Tail and Legs black. Beneath white. Breaſt rediſh with dark ſpots. Weight 14 oz. Length 10 inches. Migrates.

3. Iliacus. *Redwing.* Above brown-grey. Beneath whitiſh with brown ſpots. Sides and under Coverts of the Wings red-yellow. A yellow-white line athwart the Eyes. Weight 2¼ oz.

4. Muſicus. *Throſtle.* Above brown-grey. Beneath white with black ſpots. Throat and Breaſt rediſh. Inner Coverts of the Wings yellow. Weight 3 oz. Length 9 inches.

5. Roſeus. *Roſe coloured Ouzel.* Bill at the baſe rediſh, at the point black. A long pendent Creſt. Head, Creſt, Neck, Wings, Tail black, tinged with green-purple. Breaſt, Belly, Back roſe colour with black ſpots. Legs dirty orange. *Middleſex, Norfolk.*

6. Merula. *Blackbird.* Plumage black. Bill and edges of the Eyelids yellow.

7. Tor-

7. Torquatus. *Ring Ouzel.* Plumage black-brown, the edges of the feathers of a lighter colour. A white Creſcent on the Breaſt. Length 11 inches.

AMPELIS. Bill ſtrait, convex; upper mandible ſomewhat curved, and notched. Tongue cartilaginous, bifid.

1. Garrulus. *Chatterer.* A long Creſt. Plumage aſh colour, red, black, purple, yellow, white, brown. Red, horny, appendages from the tips of 7 of the ſmall Quills. Length 8 inches. Rare in this Iſland.

LOXIA. Bill ſhort, thick.

1. Curviroſtra. *Croſsbill.* Upper Mandible curved downward, the under upwards croſſing each other. Male red. Female green, both varying with the ſeaſons. *Shropſhire.* Migrates.

2. Coccothrauſtes. *Groſsbeak, or Hawfinch.* Bill, under ſide of the Body, and Legs rediſh. Head chefnut. Chin and Quills black. The ends of the middle Quills curved outwards. A black line from the Bill to the Eyes. Back brown. Weight 2 oz. Length 7 inches. *Shropſhire.* Migrates.

3. Pyrrhula. *Bulfinch.* Bill, Crown, Coverts of the Wings, Tail black. Back of the Neck and Back grey. Coverts of the Tail and Vent white. Cheeks, Breaſt, Belly crimſon. A white line

acroſs the Wings. The Breaſt and Belly of the *Female* dirty buff colour.

4. Chloris. *Greenfinch.* Plumage yellow-green. Exterior webs of the outmoſt feathers of the Tail yellow. Lower Belly white. Length 5½ inches.

EMBERIZA. Bill conic, angular on each ſide; a hard knob within the upper Mandible.

1. Nivalis. *Greater Brambling.* Bill yellow tipt with black. Head and Neck tawny. Back and Legs black. Beneath yellow-white. Rump yellow. Tail of 12 feathers, exteriors white. Coverts of the Wings white. Weight 1 oz. Length 7 inches. Migrates.

2. Miliaria. *Bunting.* Above olive-brown, with black ſpots. Beneath yellow-white. Edges of the Wings and Legs yellow. Sides of the Tail white. Length 7½ inches.

3. Citrinella. *Yellow-hammer.* Crown, Chin, Throat, Belly yellow. Back of the Neck, leſs Wing-Coverts, part of the Quills, and part of the Tail green. Breaſt orange. Rump brown-red. Length 6 inches.

4. Schoeniclus. *Reed Sparrow.* Above black, edged with red. Beneath white. A white circle round the head of the Male. Length near 6 inches.

FRIN-

FRINGILLA. Bills ſtrong, conic, ſtrait, ſharp.

1. Coelebs. *Chaffinch.* Bill, Crown, back and ſides of the Neck, bluiſh. Forehead, Wings, Tail black. Three white lines acroſs the Wings. Above the Eyes, Cheeks, Throat red. Belly reddiſh white. Female wants the red feathers.

2. Montifringilla. *Brambling, or Mountainfinch.* Back and Crown black edged with brown. Chin, Throat, Breaſt, and leſs Wing-Coverts orange; inner Coverts yellow. Quills edged with yellow. Belly whitiſh. Length 6 inches.

3. Carduelis. *Goldfinch.* Bill, Cheeks, back of the Head, Belly, tips of the Wings, ſpots on the Tail, Legs, white. Tip of the Bill, line from that to the Eyes, Crown, Wings, Tail black. Circle round the Bill red. Breaſt, Back, Rump, pale brown. Middle of the Wings yellow.

4. Spinus. *Siſkin*, or *Aberdavine.* Bill white tipt with black. Head black. Belly white. The reſt of the body yellow-green. Two middle feathers of the Tail black, the reſt yellow with black tips. Length near 5 inches. Migrates.

5. Cannabina. *Greater red-headed Linnet, or Redpole.* Bill blackiſh, baſe of the under Mandible whitiſh. Head and Neck aſh colour, on the Forehead a

dark red ſpot. Back, Scapulars and Coverts red-brown. Quills black, with a white bar. Breaſt pale red. Sides yellow. Belly and ſides of the Tail white. Length 5 inches. On the Sea coaſts, and ſometimes near *London*.

6. Linaria. *Leſs red-headed Linnet.* Plumage much like the former; but conſiderably leſs.

7. . . . . *Mountain Linnet or Twite.* Bill yellow. A brown ſpot above and below each eye. Head aſh colour and black. Back brown and black. Breaſt black and white. Rump tawny red. Wings and Tail edged with white. Rather leſs and more taper than the common Linnet.

8. . . . . *Linnet.* Head black and aſh colour. Back black and brown. Throat, two white lines with a brown one in the middle. Breaſt deep red. Belly white. Wings black, brown and white. Tail brown, edged with white. Length $5\frac{1}{2}$ inches.

9. Domeſtica. *Sparrow.* Bill, ſpot under each Eye, Chin, under ſide of the Neck, and Quills, black. Crown and ſides of the head brown aſh colour. Cheeks and Belly white. Back black and red.

10. Montana. *Mountain Sparrow, or White Cap.* Bill, ſpot on the Throat, and under each Ear, black. Under the Eyes, back of the Neck, and under ſide of the

the Body white. Back brown and black. Legs pale red.

MUSCICAPA. Bill triangular, the upper Mandible notched; broad at the baſe; ſurrounded with ſhort briſtles.

1. Griſola. *Fly-catcher.* Bill, Legs, Feet black. Above browniſh grey. Beneath white. Quills edged with yellow. Throat and Sides tinged with red. Mouth yellow. Length $5\frac{1}{2}$ inches.

MOTACILLA. Bill ſtrait, ſlender. Tongue jagged.

1. Luſcinia. *Nightingale.* Head and Back tawny olive. Tail tawny red. Beneath pale aſh colour; lower Belly white. Irides hazel. Eyes large. Legs deep aſh colour. Weight 1 oz. Length 7 inches.

2. Modularis. *Hedge Sparrow.* Head deep brown and aſh colour. Back and Tail blackiſh, ſome of the feathers edged with brown. Rump brown tinged with green. Throat and Breaſt bluiſh aſh colour. Belly dirty white. Legs rediſh. Weight not quite 1 oz.

3. Hippolais. *Petty-chaps.* Above greeniſh dark aſh colour. Belly white. Breaſt yellowiſh. Mouth red. Legs lead colour. Quills edged with green. Length 6 inches.

4. Sylvia. *White Throat.* Above brown aſh colour. Beneath white. Breaſt and Belly tinged with red. Tail edged with white. Legs tawny brown. Mouth yellow. Length 6 inches.

5. Alba. *White Waterwagtail.* Bill, Mouth, Head, Neck, Back, Tail, Legs black. Breaſt, Belly and ſides of the Tail white. Tail and back Claw very long. Weight 6 drams. Length 8 inches.

6. Flava. *Yellow Waterwagtail.* Above olive green. Beneath yellow. A yellow line above the Eyes. Tail black edged with white. Throat ſpotted with black.

7. . . . . *Grey Waterwagtail.* Crown, Neck, Back aſh colour. Throat black. A white line above and below the Eyes. Rump, Breaſt, and Belly yellow. Tail like the two former, but longer.

8. Oenanthe. *Wheat Ear.* A black and a white line acroſs the Face. Head and Back aſh colour tinged with red. Beneath yellowiſh white. Bill, Mouth, Quills, and upper half of the Tail black; the other half and Rump white. Size of a Sparrow. Migrates.

9. Rubetra. *Whinchat.* Above red-brown with black ſpots. Beneath reddiſh yellow. A white ſtroke above the Eyes, and a broad black one under it. Two white ſpots on the Wings. Tail black and

and white. Bill, Mouth and Legs black. Weight 1 oz.

10. Rubicola. *Stone Chatter.* Bill, Mouth, Head, Neck, Back, Tail, Legs black. Sides of the Throat and Rump white. Beneath reddiſh yellow. White ſpots on the Wings. Size of a Linnet.

11. . . . . *Coldfinch.* Bill, Head, Back, firſt Quills, middle of the Tail, Legs black. Forehead, ſpots on the Coverts and ſides of the Tail, alſo the exterior webs of ſome of the Quills, and all the underſide of the body white. Leſs than the Hedge Sparrow.

12. Atricapilla. *Blackcap.* Bill, and Crown black. Neck aſh colour. Back green. Beneath pale aſh colour. Quills and Tail edged with green. Legs lead colour. Weight ½ oz.

13. Phoenicurus. *Redſtart.* Bill, Cheeks, Throat, Legs black. Forehead white. Crown, Neck, Back blue grey. Breaſt, Rump, Tail red. Wings and 2 middle feathers of the Tail brown. Weight 6 drams. Length 5 inches.

14. Rubecula. *Redbreaſt.* Bill and Legs blackiſh. Forehead, Chin, Throat, and Breaſt yellow-red. Above green-aſh colour. Belly white. Weight ½ oz. Length 6 inches.

15. Troglodytes. *Wren.* Above red-brown, with tranſverſe black lines. Beneath yellowiſh white. Mouth yellow. A

white ſtroke above the Eyes. Weight 3 drams. Length 4½ inches.

16. Regulus. *Golden-creſted Wren.* Crown ſcarlet; a yellow line on each ſide. Above dark green. Beneath white with a green tinge. Legs yellow. Weight 70 grains. Length 4 inches.

17. Trochilus. *Willow Wren.* Above green-aſh colour. Wings and Tail brown, edged with green. Beneath yellowiſh white. A yellowiſh line above the Eyes. Mouth yellow. Weight 2 drams. Length 5 inches.

PARUS. Bill, ſhort, ſtrong, entire, briſtles at the baſe. Tongue blunt, with briſtles at the end.

1. Major. *Great Titmouſe.* Bill, Head, Throat, black. Back green. Beneath green-yellow, with a black line in the middle. Rump bluiſh. Quills tipt with blue and white. Tail edged with white. Legs lead colour. Weight ſcarce 1 oz. Length 6 inches.

2. Coeruleus. *Blue Titmouſe.* Crown, Wings, Tail blue. Forehead, Cheeks white. Back yellow-green. Beneath yellow. A white bar acroſs the Wings. Legs lead colour. Weight 3½ drams. Length 5 inches.

3. Ater. *Colemouſe.* Bill, Head black, a white ſpot on the hind part of the latter. Above green grey. Beneath white. Wing-

Wing-coverts tipt with white. Legs bluiſh. Weight 2 drams. Length near 5 inches.

4. Paluſtris. *Marſh Titmouſe.* Head black. Cheeks white. Above greeniſh. Beneath white. Legs lead colour. Weight above 3 drams.

5. Caudatus. *Long-tailed Titmouſe.* Bill black, thick, and convex: Crown white. Coverts of the Wings black. Tail black and white and remarkably long.

6. Biarmicus. *Leaſt Butcher Bird, or bearded Titmouſe.* Bill ſhort, ſtrong, convex, yellow. Head grey. A black tuft beneath each Eye. Plumage red-yellow. Tail very long. Legs black.

HIRUNDO. Bill ſhort, ſlender, a little curved, depreſſed at the baſe. Mouth very wide. Legs ſmall. Tail forked.

1. Ruſtica. *Swallow.* Above purpliſh black. Beneath reddiſh white. A red ſpot on the Forehead and under the Chin. Length 7 inches. Mouth black.

2. Urbica. *Martin.* Head and Back purple-black. Breaſt, Belly, Rump white. Feet covered with white down. Mouth yellow. Length 6 inches.

3. Riparia. *Sand Martin.* Above mouſe colour. Beneath white. Feet black. A mouſe coloured ring round the neck. Length 5 inches.

4. Apus.

4. Apus. *Black Martin, or Swift.* Black, except a white ſpot on the Chin. All the Toes ſtand forward. Weight not quite 1 oz. Length near 8 inches.

CAPRIMULGUS. Bill ſhort, a little hooked, with briſtles round the baſe. Mouth very wide. Legs feathered below the knees. Tail roundiſh.

1. Europæus. *Goatſucker.* Plumage black, white, brown, and aſh colour intermixed. Mouth purple. Irides hazel. Weight $2\frac{1}{2}$ oz. Length 10 inches.

CLASS

CLASS III.

AMPHIBIA.

Lungs arbitrary. Heart with one ventricle. Penis double.

I. REPTILES.

Breathe through the Mouth. Feet 4.

RANA. No Tail. Forefeet, 4 toes disunited. Hindfeet, 6 toes webbed.

1. Bufo. *Toad.* Back broad, black beſet with tubercles. Belly ſwollen, yellow with black ſpots. Crawls.

2. Temporaria. *Frog.* Leſs than the Toad. Back ſmooth. Margin of the upper jaw white. Leaps.

LACERTA. Tail.

1. Agilis. *Common Lizzard, or Swift.* Tail round, ſcaly. Five Toes and Nails on each Foot. Belly black, ſpotted.

   Green Lizzard, a variety.

2. Vulgaris. *Common Eft.* Pale livid colour. A brown line on each ſide the Head, continued

continued along the back. Forefeet 4 Toes; Hindfeet 5, without Nails. *Pet. cent.* 2. 116.

3. Paluſtris. *Water Eft*, or *Newt*. Length 3 to 4 inches. Above black-brown. Beneath deep yellow, ſpotted. Tail compreſt. Feet like the former. *Pet. cent.* 2. 111.

II. SERPENTS.

Breathe through the Mouth only. No Legs. No Fins. No Ears.

COLUBER. Scuta on the Belly. Scales under the Tail.

1. Berus. *Viper*. Aſh coloured. A dark indented line along the middle of the Back. Belly tinged with purple, ſpotted with black. Throat pale. Irides orange; Pupil black. Scuta 146. Scales 39. Length about 18 inches. *Pet. cent.* 2. 103.

2. Preſter. *Black Viper*. Entirely black. Tail very ſhort. Scuta 153. Scales 32. Exceedingly poiſonous. *Pet. cent.* 2. 104.

3. Natrix. *Snake*. Dark brown. Belly ſpotted with white. Throat yellowiſh white. Sides of the Head white with tranſverſe black lines. Double row of Teeth. Tail ſharp. Scuta 170. Scales 60. *Pet. cent.* 2. 101.

ANGUIS.

ANGUIS. Scales under the Belly and Tail.

1. Fragilis. *Blind Worm.* Scales ſmall, ſoft, compact. Back yellowiſh aſh colour. Belly black. Sides ſtreaked with black and white. Tail long, obtuſe. Colour varies.

III. NANTES.

Breathe both through Gills or Spiracles, and through the Mouth. No Scales. Rays of their Fins cartilaginous.

PETROMYZON. Spiracles 7, on the ſide of the Neck. No Gills. Aperture on the Top of the Head. No pectoral or dorſal Fins.

1. Marinus. *Lamprey.* Rows of Teeth 20. Mouth round. Two dorſal Fins. Back blackiſh blue, ſpotted. Belly white. A white ſpot on the top of the Head. Length about 2 feet. In the Sea and large rivers.

2. Fluviatilis. . . . . A ſingle row of ſmall teeth in the verge of the Mouth, beſides thoſe within. The poſterior dorſal Fin angulated. Back bluiſh black. Belly ſilver white. Length about 1 foot. In rivers only.

3. Branchialis. *Lamprey Eel.* Back black-brown. Belly ſilver white. Poſterior dorſal Fin

Fin ſtrait. Length 5 or 6 inches. Frequent in the *Iſis*, and *Merſea*.

RAJA. Spiracles 5 on each ſide of the under part of the Neck. Body flat. Mouth in the under part of the Head.

1. Batis. *Skate*, or *Flaire*. Back aſh colour with black ſpots, ſmooth. Belly white. A ſingle row of Spines in the Tail. Length 2 or 3 feet. Weight ſometimes 100lb.

2. Oxyrinchus. *Sharp-noſed Skate*. Back brown with 10 ſharp tubercles along the middle. Belly white. Noſe longer and ſharper than in any other of this genus. Weight 8 or 10lb. *Dale Harw.* 421.

3. Fullonica. *White Horſe*. Back yellowiſh, ſpotted with black and covered with Spines. One row of Spines on the Eyes, and two on the Tail.

4. Paſtinaca. *Fire-flaire*. Back gibbous. Body ſmooth. Noſe ſharp. Irides yellow. Tail long, without Fin, terminated by a ſharp point.

5. Clavata. *Thorn-back*, or *Maid*. Back covered with Spines. A tranſverſe cartilage acroſs the Belly. Teeth tubercular. Tail, longer than the whole Body, with a ſingle row of Spines.

SQUALUS. Spiracles 5 on each ſide the Neck. Body oblong and roundiſh. Mouth in the anterior part of the Head.

1. Acanthias. *Hound Fiſh*, or *Picked Dog*. Head depreſſed. Mouth beneath, ſemilunar. Teeth 3 rows. Foramina 2 between the Eyes. Lateral line ſtrait. Skin rough. Back bluiſh grey. Belly white. Eight or 9 white ſpots on the Back. No anal Fin. Dorſal Fins ſpinous. Uſual length 3 or 4 feet. Skin uſed by Cabinet-Makers, &c.

2. Squatina. *Monk or Angel Fiſh*. Skin rough. Teeth 3 rows. Mouth at the extremity of the Head. Pectoral Fins large. Dorſal Fins near the Tail. No anal Fin.

3. Galeus. *Tope*. Snout pellucid. Mouth beneath, ſemicircular. Three rows of ſharp Teeth. Two dorſal, pectoral, ventral and anal Fins. Noſtrils near the Mouth. Foramina near the Eyes. Length 4 or 5 feet.

4. Canicula. *Cat Fiſh*, or *Bounce*. Mouth beneath. Teeth ſeveral rows, ſmall, ſharp, curving inwards. Snout obtuſe. Back broad. Belly flattiſh. Two dorſal Fins. Ventral Fins large. Noſtrils wide. Length about 3 feet.

5. Catulus. *Morgay*, or *Rough Hound*. Back irregularly ſpotted. Belly white. Head punctured. Dorſal Fins near the Tail. Two anal Fins, alternate. Ventral Fins concreted. Body ſlender.

6. Carcharias. *White Shark*. Teeth 6 rows, ſerrated. Back flat. Firſt dorſal Fin near

near the middle of the Back. Pectoral Fins large. No anal Fin. Tail divided; the upper part largeſt. Skin very rough. Weight ſometimes 1000 lb.

7. Muſtelus. *Smooth Houndfiſh.* Teeth numerous, obtuſe. Back brown. Body roundiſh, oblong. Dorſal Fins 2; anal 1. Pectoral Fins ſhort. Noſtrils wide.

8. Glaucus. *Blue Shark.* Noſe long, ſharp, depreſſed, and punctured. A triangular foſſule on the Back. No Foramina near the Eyes. Mouth beneath. Teeth large, ſerrated. Back dark blue. Belly ſilver white. Dorſal Fins 2. Pectoral Fins long and pointed. Skin not very rough. Length 7 or 8 feet. *Dale Harw.* 420. *Borl. Cornw.* 264.

LOPHIUS. Spiracle 1. behind the pectoral Fins. Gills 3. Teeth numerous, ſlender, ſharp.

1. Piſcatorius. *Frog-fiſh*, or *Sea Devil.* Head as large as the whole body. Mouth large. Eyes diſtant; Pupil divided by a tranſverſe line. No Noſtrils. Several long Spines on the Head. Body ſurrounded with little appendages.

ACIPENSER. A ſingle narrow Spiracle on each ſide. Mouth beneath, retractile, without Teeth.

1. Sturio. *Sturgeon.* Skin rough. Noſe long, flat, ſharp. Noſtrils with a double aperture.

Four appendages from the under Jaw: Five rows of ſpinous tubercles on the Back. One dorſal Fin. Tail bifid, the upper ſegment longeſt.

TETRODON. Maxillæ bony, apex bipartite. Aperture narrow. No ventral Fins.

1. Mola. *Sunfiſh.* No Scales. Skin hard and rough. Back blackiſh. Belly white. Tail truncated, with a ſhort ſemicircular Fin, joined to the dorſal and anal. Body compreſſed, appearing like the Head of a fiſh only. *Dale Harw.* 427. *Borl. Cornw.* 267.

CYCLOPTERUS. Head obtuſe. Teeth in the Jaws. The ventral Fins infundibuliform.

1. Lumpus. *Lump Fiſh, Sea Owl, or Cockpaddle.* Noſtrils ſingle. Back ridged, and beſet with ſharp tubercles. Colour, black mixt with pale red and white. Dorſal Fin long. Tail-Fin diſtinct.

2. Liparis. *Sea Snail.* Body naked. Dorſal, anal and tail Fins united. A round ſpot like the impreſſion of a ſeal under the Throat. Length about 3 inches.

SYGNANTHUS. Noſe roundiſh, compreſſed. Mouth a ſmall round aperture at the extremity of the Head, and covered by a kind of valve: Gills covered in

the ſame manner. Body long. No ventral Fins.

1. Typhele. *Needle Fiſh.* Body hexangular to the Anus. One dorſal Fin. Length 5 inches. Diameter $\frac{1}{3}$ of an inch.

2. Acus. . . . . Body, to the Anus, heptangular, and covered with 20 laminæ, the Tail with 36. Length $4\frac{1}{2}$ inches.

3. Ophidon. *Sea Adder.* Body cylindrical. Dorſal Fin only. Colour greeniſh duſky grey. Length about 9 inches.

CLASS

CLASS IV.

FISHES.

Breathe by Gills, not arbitrarily. Rays of their Fins bony. Heart with one ventricle. No external parts of Generation.

I. APODES.

No ventral Fins.

MURÆNA. Body long, ſlender, cylindrical. Noſtrils tubular. Apertures of the Gills near the pectoral Fins. Eyes covered by a membrane.

1. Ophis. *Spotted Sea Serpent.* Body very ſmall in proportion to its length. Mouth large. Teeth point inwards. Back ſpotted with white. Belly and Fins whitiſh. Tail naked, pointed. Length from 3 to 4 feet.

2. Anguilla. *Eel.* The lower Maxilla longer than the upper. Dorſal, anal and tail Fins united. Iris red. Lateral line aſcends towards the Head. Vertebræ 116. *Will.* 109. *Raj.* 37.

3. Myrus. *Flat-tail'd Sea Serpent.* Back dark olive ſpotted with white. Body com-

preſſed. Back Fin, ſurrounding the Tail as in the former, edged with black. *Raj.* 36. *Hill.* 237.

4. Conger. *Conger Eel.* Fins like the laſt ſpecies. Lateral line ſtrait, broad, white. Back dark olive. Belly white. Length from 5 to 8 feet, and thick as a man's thigh. *Will.* 3. *Raj.* 37.

ANARHICHAS. Foreteeth conic, diverging. Tail Fin diſtinct.

1. Lupus. *Sea Wolf.* Head and Mouth large. Teeth long and numerous. Eyes prominent. Body thick, lubricous and variegated. Pectoral Fins large and roundiſh. Dorſal Fin long but not high. Length 4 or 5 feet. *Raj.* 40. *Will.* 130.

AMMODYTES. Head compreſſed, and narrower than the Body. Lower Mandible ſharp. Small Teeth in the fauces only. Gill-membrane has 7 rays. Body long and roundiſh. Scales hardly viſible. Tail diſtinct.

1. Tobianus. *Sand Eel or Launce.* Lateral line double. Anus nearer the Head than Tail. Dorſal Fin almoſt from Head to Tail. Belly white, with 3 longitudinal lines. *Dale Harw.* 426. *Will.* 113.

II. JU-

II. JUGULARES.

Ventral Fins before the pectoral.

CALLIONYMUS. Upper Lip duplicate. Eyes near together. Apertures of the Gills in the Neck. No Scales.

1. Lyra. *Lyre.* The rays of the first dorsal Fin equal to the length of the Body. The upper Mandible longer than the under. *Dale Harw.* 431.

2. Dracunculus. . . . . Upper mandible longest, and hooked. Head large, compressed. First ray of the anterior dorsal Fin reaching to the Tail. Colour yellow, pearl colour and blue. *Borl. Corn.* 270.

TRACHINUS. Head beset with Tubercles. Eyes near together. Two dorsal Fins, the first short. Anus near the Breast.

1. Draco. *Weaver.* Under Maxilla longest. Body compressed. Dorsal and tail Fins serrated. Lateral line strait, yellow. A strong Spine near the valve of the Gills. A deep sulcus on the back. The anterior dorsal Spines venomous.

GADUS. Head smooth. Rays of the Gill

membrane 7. Body oblong. Pectoral Fins ending in a point.

With 3 dorsal Fins. A Cirrus or Beard from the lower Jaw.

1. Æglefinus. *Haddock.* Upper Maxilla longeſt. Lateral line black. A brown ſpot on the left ſide. Back ridged. Belly white. Tail a little forked.

2. Morhua. *Cod.* Upper Maxilla longeſt. Lateral line white. Colour variegated. Tail not forked, and its firſt ray ſpinous.

3. Luſcus. *Rib*, or *Blinds.* The firſt ray of the ventral Fins long. The lateral line dotted and curved. Body compreſſed. Back olive. Belly white. *Raj.* 54. *Will.* 169.

4. Barbatus. *Whiting Pout.* Body broad. Back convex. Lateral line much curved. Two blackiſh ſpots at the roots of the pectoral Fins. Tail even. Anus near the Head. Punctures on each ſide the lower Maxilla 7. *Raj.* 55. *Will. app.* 22.

5. Minutus. *Poor.* Back convex. Anus near the center. Punctures in the Maxilla 9 on each ſide. Length 1½ inch. *Raj.* 50—163. *Will.* 171. *Borl.* 268.

With 3 dorsal Fins, and no Cirrus.

6. Merlangus. *Whiting.* Back convex, duſky; the reſt of the Body white. Upper Jaw longeſt. Lateral line curved. Tail

Tail even. A black ſpot on each ſide near the root of the pectoral Fin. *Raj.* 55. *Will.* 170.

7. Carbonarius. *Cole Fiſh*, or *Raw Pollac.* Colour black mixt with duſky yellow. Under Jaw longeſt. Lateral line broad, white, ſtrait. Size of the laſt ſpecies. *Raj.* 54.

8. Pollachius. *Whiting Pollach.* Back convex. Lower Jaw longeſt. Lateral line broad, curved. Tail lunated. Body thick. Length about 12 inches. *Raj.* 53. *Will.* 167. *Dale Harw.* 428.

With 2 dorſal Fins.

9. Merluccius. *Hake.* Body long and roundiſh. Under Jaw longeſt. Lateral line curved. Head broad. Back browniſh grey. Belly white. Tail even. Length about 2 feet. *Raj.* 56. *Will.* 174. *Dale Harw.* 429.

10. Molva. *Ling.* Upper Jaw longeſt; a cirrus from the lower. Head depreſſed. Mouth large. Back convex, black-brown. Body long, and roundiſh. Tail a little rounded. *Raj.* 50. *Will.* 175.

11. Lota. *Eel Pout.* Body long, ſlender and lubricous. Head broad, depreſſed. Jaws equal. A cirrus from the lower Jaw. Tail nearly oval. *Raj.* 67, 68, 3. *Will.* 125.

12. Muſtela. *Whiſtle Fiſh*, *Rockling*, or *Sea Loach.* A deep furrow in the anterior part of the back. Tail rounded. Body

ſlender. Length 8 inches. *Raj.* 67, 164. *Will.* 121.

BLENNIUS. Head decliving from the eyes forward, and covered. Rays of the Gill-membrane 6. Rays of the ventral Fins 2. Anal Fin diſtinct.

1. Galerita. *Creſted Sea Lark.* A triangular creſt, red at the edges, between the Eyes. Body variegated. Dorſal Fin nearly from Head to Tail. *Will.* 134

2. Pholis. *Sea Lark*, *Mulgranoc*, or *Bulcard.* Upper Jaw longeſt, and ſharp. Colour variegated. Tail rounded. Length 6 or 7 inches. Dorſal Fin almoſt from Head to Tail. *Raj.* 73. *Will.* 133.

3. Gunnellus. *Butter Fiſh.* Colour, brown, olive, green, white. Ten black ſpots, with white edges, on each ſide the dorſal Fin. Mouth large, curving upwards. Eyes ſmall and covered with a cuticle. Scales extreamly minute. Length 6 inches. *Raj.* 144. *Will.* 113. *Pet. gaz. t.* 51. 5.

III. THORACICI.

Ventral Fins under the pectoral.

GOBIUS. Eyes very near each other, with 2 ſmall punctures between. Rays of the Gill-membrane 4. Ventral Fins united, forming a kind of funnel.

1. Niger. *Sea Gudgeon*, or *Rock Fiſh*. Back brown, whitiſh, yellowiſh, blue, green, olive, black. Tail, dorſal and anal Fins pale blue. Belly yellow. Rays of the poſterior dorſal Fin 14. Eyes covered by one common membrane. *Will.* 206. *Raj.* 76. *Dale Harw.* 429.

COTTUS. Head broader than the Body and ſpinous. Rays of the Gill-membrane 6.

1. Cataphractus. *Pogge*. Body octangular, beſet with hard tubercles; Tail hexangular. Two cirri on the upper Jaw; ſeveral on the lower. Anus near the center. Tail rounded. *Will.* 211. *Raj.* 77. *Dale Harw.* 430.

2. Scorpius. *Father laſher*. Upper Jaw longeſt. Anterior part of the Body depreſſed. Back brown. Sides ſtreaked tranſverſely with black. Rays of the firſt dorſal Fin 11. Of the ſecond 16. Tail rounded. *Raj.* 145. *Will.* 138.

3. Gobio. *Bull-head*, or *Miller's Thumb*. Two Spines on the Head. No Scales on the Body. Back brown with black ſpots. Belly whitiſh. Fins yellowiſh. Rays of the firſt dorſal Fin 7. Of the 2d. 16 or 17. Length 4 or 5 inches. In rivers and rivulets. *Will.* 137. *Raj.* 76.

ZEUS. Head and Body remarkably compreſſed. Upper lip ſheathed in a tranſverſe membrane.

1. Faber.

1. Faber. *Doree.* Head and Mouth large. Colour olive tinged with gold colour. A large black ſpot on each ſide. Lateral line much curved. Ten prickly rays on the anterior dorſal Fin. Spines on the Back and Belly. Tail rounded. *Raj.* 99. *Will.* 294.

PLEURONECTES. Both Eyes on one ſide of the Head. Body extreamly compreſſed. One ſide white.

Eyes on the right ſide.

1. Hippogloſſus. *Holibut* in the South: *Turbot* in the North. Body ſmooth. Rays of the dorſal Fin 105. *Raj.* 33. *Will.* 99.

2. Plateſſa. *Plaiſe.* Body ſmooth, with round red ſpots on the upper ſide. Six tubercles on the head. Rays of the dorſal Fin 76. *Raj.* 31. *Will.* 96.

3. Fleſſus. *Flounder.* Lateral line rough. Short ſpines on the right ſide of the Fins. Rays of the dorſal Fin 60, 61, or 62.

4. Limanda. *Dab.* Scales fringed with ſhort ſpines. Body broad. The upper ſide ſpotted with pale yellow. Short ſpines at the roots of the dorſal and anal Fins. Lateral line curved. Rays of the dorſal Fin 78 or 79. *Raj.* 32. *Will.* 97.

5. Solea. *Soal.* Body oblong. Scales rough. Upper Jaw longeſt. Lateral line ſtrait. Anus between the ventral Fins. Rays of the dorſal Fin 91. *Raj.* 33. *Will.* 100.

Eyes

Eyes on the left ſide.

6. Rhombus. *Pearl.* Body ſmooth, ſcaly. *Raj.* 31. *Will.* 95.

7. Maximus, *Turbot*, in the South: *Bret* in the North. Body rough, and not ſcaly. Several rows of Teeth. Rays of the dorſal Fin 64; anal 48; pectoral 11. *Raj.* 31. *Will.* 95.

SPARUS. Teeth like thoſe of Quadrupeds. Lips duplicate. Valve of the Gills ſcaly. Body compreſſed.

1. Pagrus. *Sea Bream.* Colour reddiſh. At the roots of the dorſal and anal Fins the ſkin forms a ſinus. Body broad. Back and Belly ridged. One dorſal Fin. *Will.* 312. *Raj.* 131. *Charlt.* 139.

LABRUS. Teeth ſharp. Lips ſimple. Rays of the Gill-membrane 6; Valve ſcaly. Rays of the dorſal Fin alternately ſoft and ridged.

1. Tinca. *Wraſſe*, or *Old wife.* Snout curving upwards. Tail circular. Body thick, compreſſed. Scales large. Colour variegated with red, brown, yellow. Rays of the dorſal Fin 26. *Raj.* 136. *Will.* 319.

PERCA. Valve of the Gills ſcaly, ſerrated; rays of the membrane 7. Fins ſpinous. Scales hard and rough.

1. Flu-

1. Fluviatilis. *Pearch.* Two dorſal Fins, the firſt of 14, the ſecond of 16 rays. Ventral Fins red. On each ſide 6 tranſverſe black lines. A black ſpot at the end of the anterior dorſal Fin. In lakes and rivers. *Will.* 291. *Raj.* 97.

2. Labrax. *Baſſe.* Two dorſal Fins, the ſecond 14 rays. Back blackiſh. Belly ſilver white. Shaped like the Salmon. Tail a little forked. Length 3 feet. *Will.* 271. *Raj.* 83.

3. Cernua. *Ruff.* One dorſal Fin, of 27 rays, 15 of which are ſpinous. Head full of cavities. Colour brown-yellow, with black ſpots. Length 5 inches. In many of our rivers. *Will.* 334. *Raj.* 144.

GASTEROSTEUS. Gill-membrane hath 3 rays. Ventral Fins behind the pectoral, but above the ſternum. Dorſal Spines diſtinct.

1. Aculeata. *Stickle-back.* One dorſal Fin the whole length of the back, with 3 anterior Spines. Head and Back blackiſh; the reſt of the Body ſilvery. Body compreſſed. Eyes on the ſides of the Head. Tail even. Frequent in our rivers. *Raj.* 145. *Will.* 341.

2. Pungitius. *Leſs Stickle-back.* Ten dorſal Spines. Much like the former, but leſs. *Raj.* 145. *Will.* 342.

3. Spina-

3. Spinachia. *Great Sea Stickle-back.* Dorſal Spines 15. Length 6 or 7 inches. A ſea fiſh. *Will.* 340. *Raj.* 145.

SCOMBER. Head and Body compreſſed, ſmooth. Tail forked. Rays of the Gill-membrane 7. Spurious Fins near the Tail.

1. Scomber. *Mackrel.* Spurious Fins 5. A ſhort Spine at the Anus.

2. Thynnus. *Tunny-fiſh.* Spurious Fins 9 above, 8 beneath. A Furrow near the ventral Fins.

3. Trachurus. *Horſe Mackrel*, or *Scad.* Lateral line curved, prickly, ſerrated. A Furrow in the middle of the Back. Rays of the firſt dorſal Fin 8; 2d 34; anal 30.

MULLUS. Head ſcaly, compreſſed, decliving from the Crown to the Noſe. Gill-membrane with 3 Rays. Body with large Scales, eaſily deciduous. Very ſmall towards the Tail.

1. Surmuletus. *Surmullet.* Cirri 2. Head ſmooth. Colour brown olive, with 4 longitudinal yellow lines on each ſide. Fins and Tail yellow ſtained with ſcarlet. Rays of the 2d dorſal Fin 8. *Cornwall. Raj.* 91. *Will.* 285.

TRIGLA:

TRIGLA. Head armed with rough lines. Gill-membrane with 7 Rays. Three Digits to the pectoral Fins.

1. Lyra. *Piper.* Nose long, bifid; Nostrils tubular. A large Spine above each pectoral Fin. Spots 70 on each side. *Raj.* 89. *Will.* 282. *Dale Harw.* 431.

2. Gurnardus. *Grey Gurnard.* Nose bifid; 2 Spines at each eye. Back spotted with black and red. Pectoral Fins pale. *Raj.* 88. *Will.* 279.

3. Cuculus. *Red Gurnard.* Nose somewhat bifid. Valve of the Gills striated. Lateral line imperfect. Colour intirely red. *Raj.* 89. *Will.* 281.

4. Hirundo. *Tub Fish.* Head square, spinous. Three cirri between the pectoral and ventral Fins. Lateral line prickly. Sides variegated with purple green and white. Pectoral Fins black, *Raj.* 88. *Will.* 280.

IV. ABDOMINALES.

Ventral Fins on the Abdomen behind the pectoral.

COBITIS. Eyes in the upper part of the Head. Gill-membrane with 4 to 6 rays. Valve closed beneath. Body compressed, and nearly of an equal thickness.

1. Barbatula. *Groundling*, or *Loache*. Cirri 6. Head without Spines. Body ſmooth, ſpotted. Dorſal Fin 8 rays. Irides yellow. Length 3 inches. *Raj.* 124. *Will.* 265.

2. Tænia. *Bearded Loach.* Cirri 6. Upper jaw longeſt. A forked Spine under each Eye. No Teeth, nor lateral line. Dorſal Fin of 9 rays. Length 3 inches. In lakes and ponds. *Raj.* 124. *Will.* 265, 266.

SALMO. Head ſmooth. Teeth in the Jaws and on the Tongue. Gill-membrane 4—10 rays. Dorſal Fin near the Head.

1. Salar. *Salmon.* Upper Jaw longeſt. Rays of the anterior dorſal Fin 15. Second without Rays. Lateral line ſtrait, with a few black ſpots above and below. Tail lunated. *Raj.* 63. *Will.* 189.

2. Eriox. *Grey.* Spotted all over with grey ſpots. Tail equal. Not quite ſo large as the Salmon. *Raj.* 63. *Will.* 193.

3. Trutta. *Salmon Trout.* Jaws equal. Dorſal Fin 12 rays, with black ſpots. Pectoral Fins 13 rays, with 6 ſpots. Tail even. Head and ſides ſprinkled with black ſpots ſurrounded with brown. *Raj.* 63. *Will.* 193.

4. Fario. *Trout.* Lower Jaw longeſt. Sides ſpotted with red. Tail lunated. Rays of

of the anal Fin 10. *Raj.* 65. *Will.* 199.

5. Carpio. *Gilt Charre.* Five rows of Teeth in the Palate. Irides white. Sides and Belly ſilvery. Black ſpots on the Back. Eight punctures on each ſide the lower Jaw. Body broader than the Trout. *Raj.* 66. *Will.* 197.

6. Alpinus. *Red Charre.* Lower Jaw longeſt. Irides grey; pupil black. Rays of the Gill-membrane 10. Rays of the dorſal Fin 12. Back blackiſh. Sides pale blue. Belly orange. Ventral Fins red; external margin white. Tail lunated. Length 12 or 13 inches. *Winandermere, Weſtmorl. Raj.* 65. *Will.* 196.

7. Eperlanus. *Smelt.* Dorſal oppoſite to the anal Fin. Head diaphanous. Rays of the anal Fin 17. Back convex. Lateral line ſtrait. *Raj.* 66. *Will.* 202.

8. Lavaretus. *Schelley.* Teeth ſcarce viſible. Upper Jaw longeſt. Rays of the dorſal Fin 14. Lateral line ſtrait. Scales larger than thoſe of the Trout. Sides and Belly ſilver white. Shaped like a Herring. *Hulſwater, Cumberl. Raj.* 61. *Will.* 183.

9. Thymalus. *Grayling*, or *Umber.* Upper Jaw longeſt. Dorſal rays 23; thoſe of the Gills 9. Body narrow. Teeth extreamly minute. Length 13 or 14 inches.

inches. Scales large, ſemicircular, and not imbricated. *Raj.* 62. *Will.* 187.

ESOX. Under Jaw longeſt, punctured. Teeth in the Jaws and Tongue. Body long. Dorſal Fin near the Tail. Rays of the Gill-membrane 14.

1. Oſſeus. *Great Gar Fiſh.* Upper Jaw longeſt. Mouth very large. Eyes ſmall, Iris yellow. Scales imbricated and hard. Tail quadrangular. Body long and ſmall. Length 2 feet. *Suſſex coaſt*, *Hill.* 223.

2. Lucius. *Pike.* Head compreſſed behind; depreſſed before. Body ſomewhat quadrangular. Teeth numerous regular. Lateral line ſtrait. Tail forked; with 19 rays. *Raj.* 112. *Will.* 236.

3. Belone. *Horn Fiſh*, or *Gar Fiſh.* Snout long, ſlender, pointed. Body long, ſmall. Back olive-black. Sides yellowiſh. On the Sea coaſt. *Raj.* 109. *Will.* 231. *Dale Harw.* 433.

MUGIL. No Teeth. Rays of the Gill-membrane 7. Lips membranous. Scales imbricated, cover both the Body and the Head.

1. Cephalus. *Mullet.* Dorſal rays 5. Mouth ſmall. Eyes large, diſtant, and placed near the extremity of the Head; Iris white; pupil black. Back brown-grey. Sides and Belly ſilver white. No lateral line. Ventral and anal Fins

white. Dark longitudinal lines on the ſides. *Raj.* 84. *Will.* 274.

CLUPEA. Rays of the Gill-membrane 8. Belly very acute, ſerrated.

1. Harengus. *Herring.* Under Jaw longeſt. Back duſky blue. Dorſal rays 19. Tail forked, rays 18. *Raj.* 103. *Will.* 219.

2. Sprattus. *Sprat.* Under Jaw longeſt. Dorſal rays 17. A dark ſpot on each ſide near the Gills. Length 4 or 5 inches. Vertebræ 48. *Raj.* 105. *Will.* 221.

3. Aloſa. *Shad*, or *Pilchard.* Apex of the upper Jaw bifid. Black ſpots from 4 to 7 on each ſide. Dorſal rays 19; Tail 19. Length above four times its breadth. Vertebræ 55. *Raj.* 104. 105, *Will.* 223, 227.

CYPRINUS. No Teeth. Rays of the Gill-membrane 3. Body ſmooth.

1. Barbus. *Barble.* Upper Jaw longeſt. Beards 4. Rays of the anal Fin 7. Back ridged. Tail forked. Length 10 or 11 inches. In moſt of our rivers. *Raj.* 121. *Will.* 259.

2. Carpio. *Carp.* Beards 4. Rays of the anal Fin 9. Hooks on the 3d ray of the dorſal Fin. Scales large, imbricated. Lateral line ſtrait. Dorſal Fin blackiſh; the others pale red. *Raj.* 115. *Will.* 246.

3. Gobio. *Gudgeon.* Beards 2. Upper Jaw longeſt. Rays of the anal Fin 9. Black ſpots on the Back and Sides. Lateral line black, and almoſt ſtrait. Dorſal rays 10. Tail a little forked. Length 5 inches. *Raj.* 123. *Will.* 264.

4. Tinca. *Tench.* Colour purpliſh black. Scales ſmall and lubricous. Extremity of the Tail even. Dorſal rays 12; anal 25. Irides red. Length 10 or 11 inches. *Raj.* 113, 117. *Will.* 251.

5. Cephalus. *Chub*, or *Cheven.* Head and Scales large. Body long and roundiſh. Anal rays 11. Tail even. Length 12 inches. In moſt of our rivers. *Raj.* 119. *Will.* 255.

6. Phoxinus. *Pink*, *Minime*, or *Minow Pink.* Body roundiſh, pellucid. Lateral line yellow. Brown ſpots near the Tail. Rays of the anal Fin 8. Colour various. Length 2 inches. In ſhallow rivers. *Raj.* 125. *Will.* 258.

7. Leuciſcus. *Dace.* Body roundiſh and ſlender. Scales large, imbricated. Irides white. Rays of the anal Fin 10. Length 6 or 7 inches. *Raj.* 121. *Will.* 260.

8. Rutilus. *Roach.* Iris, ventral and anal Fins red. Scales large, imbricated: Lateral line curved downwards. Rays of the anal Fin 12. Tail forked. Length 6 or 7 inches. *Raj.* 122. *Will.* 262.

9. Orfus. *Rud*, or *Fincale.* Colour yellowiſh brown. Ventral, anal Fins and Tail

red. Red ſpots on the valve of the Gills. Irides yellow with black ſpots. Dorſal rays 10; anal 13. Tail forked. In the lakes in *Holderneſs*, *Lincolnſh.* *Raj.* 118. *Will.* 252. *Plot.* Ox.

10. Erythrophthalmus. *Red-Eye.* Iris and Fins red. Body tinged with red. Rays of the anal Fin 15. Dots on the lateral line 60. *Raj.* 116.

11. Alburnus. *Bleak.* Under Jaw longeſt. Back convex. Belly ſharp. Fins whitiſh. Scales large, imbricated. Anal rays 20. Length 5 inches. In rivers. *Raj.* 123. *Will.* 263.

12. Brama, *Bream.* Fins blackiſh. Back and Belly ridged. Scales large, imbricated, ſilvery. Rays of the anal Fin 27. Tail forked. Length 12 inches. Frequent in large rivers. *Raj.* 116. *Will.* 248.

CLASS

CLASS V.

INSECTS.

Antennæ 2. Legs 6 or more. Breathe through lateral Spiracula.

I. COLEOPTERA.

Wings 2, covered by 2 Shells, divided by a longitudinal ſuture.

SCARABÆUS. Antennæ clavated, their extremities fiſſile. Five joints in each Foot.

Thorax cornuted.

1. Typhoeus. *Bull-comber.* Thorax ſmooth with three horns or ſpines, thoſe on each ſide extending forward equal with the extremity of the Head. Shells ſtriated. Legs hairy. Length $\frac{4}{5}$ inch. Colour black. On Hamſtead-Heath in the Spring. *Pet. gaz.* T. 23. f. 3.

2. Lunaris. *Lunated Beetle.* On the Head a lunated helmet and an erect horn. Thorax with two horns and a longitudinal line. Eight longitudinal ſcratches on each Shell. Colour dark brown. Length $\frac{4}{5}$ inch.

3. Nuchicornis. . . . . An erect horn on the back of the Head. Thorax rounded. Head and Thorax black. Shells grey clouded with black. Length $\frac{3}{10}$ inch. Under Swines dung, frequent in the Spring.

4. Foſſor. *Little oval Beetle.* Black and ſhining. Three tranſverſe points on the Head. Nine longitudinal ſtriæ on the Shells. Length $\frac{4}{5}$ inch.

5. Fimetarius. *Dung Beetle.* Thorax rounded, with a margin. Head and Thorax black. Antennæ and Shells red, in ſome grey. Frequent in the Spring on Cow-dung. Length $\frac{1}{5}$ of an inch.

6. Hæmorrhoidalis. . . . . Extremity of the Shells and Legs red. Size of a grain of Millet. In muſhrooms and putrid vegetables.

7. Stercorarius. *Common Dor*, or *Clock.* Helmet raiſed in the middle. Corſelet rounded, margined. Above black. Beneath ſhining blue. Thighs hairy with a brown ſpot on the anterior ones. Shells ſtriated. Length 1 inch.

8. Vernalis. . . . . Colour intirely dark ſhining blue. Shells not ſtriated. Length $\frac{3}{5}$ inch. Otherwiſe like the former.

9. Horticola. *Black Legs*, or *Garden Beetle.* Beneath black and hairy. Head and Thorax blue. Shells light brown. Length $\frac{1}{3}$ inch. On Apple trees.

10. Me-

10. Melolontha. *Tree Bettle, Brown, or Blind Beetle.* Thorax hairy. Inciſures of the abdomen white. Triangular white ſpot on each ſide the Belly. Four ſtriæ on each Shell. Tail ſharp, long, curved. Leaves of the Antennæ 6 or 7. Length 1 inch. *Geof.* I. 70.

11. Solſtitialis. *Hoary Beetle.* Thorax hairy. Shells pale brown with 3 white lines. Tail not long. Length $\frac{1}{2}$ inch. Frequent in Autumn, in the eaſtern part of this kingdom.

12. Hemipterus. *Flat Beetle.* Scaly with white dots. Head long and ſmall. Thorax woolly, margined, with two longitudinal ridges. Shells abbreviated. Length $\frac{1}{3}$ inch.

13. Faſciatus. *Yellow Beetle.* Head, Body, Corſelet black with yellow hair. Shells pale yellow with 3 black croſs-lines. Tail not quite covered. Length $\frac{1}{3}$ inch.

14. Auratus. *Roſe Chaffer, Braſs Beetle,* or *Green Beetle.* Colour green with a bronze tinge. White tranſverſe ſpots on the ſhells. Sternum projects towards the Head. Length $\frac{2}{3}$ inch. On flowers, particularly roſes, and pioniæ.

15. Nobilis. . . . . Differs from the laſt in being rather leſs, no bronze tinge, thorax not projecting.

LUCANUS. Antennæ clavated, compreſſed, pectinato-fiſſile. Maxillæ extended ſo as to reſemble horns. Five joints in each foot.

1. Cervus. *Stag-Beetle.* Head and Thorax black. Shells dark brown. Horns, reſembling thoſe of a Stag, forked at the end, a ſmall branch near the middle on the inſide, moveable. Shells plain. Length $1\frac{3}{4}$ inch. In ſeveral places near London.

2. Parallelipipedus. . . . . Like the laſt, but much leſs, and more compreſſed. Colour black. *Pet.* p. 12. cap. 1. n. 3.

3. Caraboides. *Blue Stag.* A violet tinge. Horns lunated. Thorax margined. Length $\frac{1}{2}$ inch.

DERMESTES. Antennæ of 3 joints, clavated, perfoliated. Thorax convex. Head concealed under the Thorax.

1. Lardarius. . . . . Black. Anterior part of the Shells grey. On each Shell 3 black ſpots in the form of a triangle. Produced from the bacon magot. Length $\frac{1}{3}$ inch.

2. Pellio. . . . . Colour dark ſhining brown. A white ſpot on each Shell. In houſes and on flowers. Length $\frac{1}{5}$ inch.

3. Domeſticus. . . . . Colour black brown. Thorax raiſed and ſomewhat hairy. Shells

Shells ſtriated. Antennæ rediſh. On being touched it rolls itſelf up, and continues motionleſs. It is this inſect, ſays Geoffroy, which makes the round holes in furniture, and which we call the death-watch. Length $\frac{1}{10}$ inch.

4. Fumatus. . . . . Colour light brown. Eyes black. Thorax margined. Size of a louſe. In horſe dung.

5. Pulicaris. *Flea Beetle.* Oblong, black. Shells abbreviated. Belly and Wings whitiſh. Runs and flies eaſily. Size of a flea. On flowers.

PTINUS. Antennæ ſub-filiform, the joints towards the end longeſt. Thorax roundiſh, concealing the head.

1. Pectinicornis. . . . . Black-brown. Antennæ pale yellow, with teeth on the inner ſide. Legs colour of the Antennæ. Length $\frac{1}{5}$ inch. In old trunks of willows.

2. Pertinax. . . . . Dark brown, with yellowiſh ſpots; cylindrical, oblong. Antennæ plain like briſtles. Thorax gibbous. On being touched he rolls himſelf up, and continues motionleſs in ſpite of torture. This inſect, ſays Linnæus, deſtroys my chairs.

3. Mollis. . . . . Red brown, ſhining. Eyes black. Shells ſoftiſh. Length $\frac{1}{10}$ inch.

4. Fur.

4. Fur. . . . . Colour brown. Head large. Antennæ longer than the body. Eyes prominent. Corſelet ſmall, globous, tubercular, but not dentated. Shells with two tranſverſe white belts. Wings minute. Very deſtructive in cabinets of animal and vegetable productions. Length $\frac{1}{7}$ inch.

HISTER. Antennæ broken in the middle with a ſolid bulb at the end. Head retractile.

1. Unicolor. . . . . Square, black, poliſhed. Shells abbreviated, truncated, and faintly ſtriated. Head minute. Tail rounded. Length from 1 to 4 tenths of an inch.

2. Bimaculatus. . . . . Black, poliſhed. Shells abbreviated, with 1 red ſpot on each. Size of a grain of rice. *Geof.* 95. 2. *Raj.* 108. 14.

GYRINUS. Antennæ clavated, ſtiff, ſhorter than the Head. Eyes 4.

1. Natator. *Water Flea.* Bright black. Feet yellow, flat, and large. Length $\frac{1}{3}$ inch. Runs with great celerity, in circles, on on the ſurface of the water. *Raj.* 87. 10.

BYRRHUS. Antennæ clavated, ſolid, compreſſed.

1. Scro-

1. Scrophularia. . . . . Body oval, black. Belly covered with white ſcales. Head ſmall, retractile. Corſelet broad and covered with red and white ſcales. Shells black, ſcaly, with a white belt and white ſpot on each; future red. Length $\frac{1}{10}$ inch. *Raj.* 85. 37. On flowers.

2. Verbaſci. . . . . Much like the laſt, except that it is leſs, and has 3 pale undulated belts athwart the ſhells.

SILPHA. Antennæ clavated, foliated. Head prominent. Thorax margined.

1. Veſpillio. . . . . Margin of the thorax broad. Shells abbreviated, black, with 2 yellow belts. Thighs of the hind legs large with a ſpine near their origin. Length near 1 inch. On dead bodies. *Liſt. tab. mul.* 17. 15. *loq.* p. 381.

2. Biphuſtulata. . . . . Antennæ long and ſmall. Black, with 2 red ſpots on the middle of each Shell. Length $\frac{1}{5}$ inch.

3. Puſtulata. . . . . Black, oblong. On the Shells 4 brown ſpots. Length $\frac{1}{3}$ inch. On trees.

4. Quadripunctata. . . . . Head, Antennæ and Legs black. Margin of the Thorax and Shells pale yellow, with 4 black ſpots. Length $\frac{1}{2}$ inch. In Cain-wood, near Hamſtead.

5. Sabuloſa.

5. Sabulosa. . . . . Black. Antennæ short, globular. Five striæ on each shell. Shells and Wings short. Five joints on the 2 first feet, 4 on the rest. In sand.

6. Aquatica. . . . . Brown, with a green bronze tinge. Four ribs on the thorax. On each Shell 10 striæ. Length $\frac{1}{6}$ inch.

7. Pulicaria. . . . . Black, oblong. Shells abbreviated. Abdomen rounded at the extremity. Thorax and Shells scarce margined. Length 1 line. Found frequently running on flowers.

CASSIDA. Antennæ knotted, enlarging towards the ends. Shells and Thorax bordered. Head concealed under the corselet.

1. Viridis. *Green Tortoise Beetle.* Shells, dotted and streaked, overhang the body. Beneath black. Above green. Length 1 line. On verticillated plants, and thistles. . . . . .

2. Nebulosa. . . . . Light brown, clouded, with black spots. Shells larger than the body. Length 1, 2, 3 lines. On thistles.

3. Nobilis. . . . . Yellowish grey, with a green-gold line on each shell, which dies with the insect. Length 1 $\frac{1}{4}$ line.

4. Maculata.

4. Maculata. . . . . Green, or red. Shells with longitudinal ſtriæ, and 5 or 6 black ſpots on each ſide the ſuture; alſo 2 large black ſpots near the upper external angle of the Shells. Length 3 ½ lines.

COCCINELLA. Antennæ knotted, truncated. Palpi longer than the antennæ, Body hemiſpheric. Shells and Thorax bordered. In each foot 3 joints.

1. 2-punctata. . . . . Head, Thorax, and Belly black. A large white ſpot on each ſide of the Corſelet. Shells red, with 2 black ſpots. Length 2 ½ lines. On the alder and ſome other trees.

2. 5-punctata. . . . . Differs from the laſt in having 5 black ſpots on the Shells. In gardens.

3. 7-punctata. *Lady Cow*, or *Lady Bird*. Head and Thorax black. Shells red, with 7 black ſpots. Length 3 or 4 lines. *Geoff.* 321. 3.

4. 9-punctata. . . . . Black. Shells red, with 9 black ſpots. Length 2 ½ lines. On trees. *Geof.* 323. 4.

5. 14-punctata. . . . . Above yellow. Poſterior part of the Corſelet black. On the Shells 14 ſquare ſpots. Length 2 ½ lines. *Geoff.* 328.

6. 16-punctata. . . . . Head, Corſelet, and Shells yellow, with 16 black ſpots. Suture

Suture black. Length 1 line. *Geoff.* 339. 16.

7. 22-punctata. . . . . Head black. Corſelet and Shells yellow; the firſt with 7 black ſpots, the latter with 20 only. Length $1\frac{1}{2}$ line.

8. Conglobata. . . . . Head, Corſelet, and Legs yellow. On the Corſelet 7 black ſpots. Shells red with 8 black ſpots on each. Length 2 lines.

9. 14-guttata. . . . . Head white. Eyes black. Corſelet red, with white edges. Shells red, with 14 white ſpots. Length 2 lines. In woods.

10. 2-puſtulata. . . . . Head, Corſelet, and Shells black, with a red tranſverſe line, compoſed of 3 ſmall dots, on each ſhell. Abdomen red. Length 1 line. On trees and flowers.

11. 6-puſtulata. . . . . Head black, with 2 yellow ſpots. Corſelet black, with yellow edges. Shells black, with 6 red ſpots. Length $1\frac{1}{2}$ line.

CRYSOMELA. Antennæ knotted, enlarging towards the ends. Corſelet margined.

Body oval.

1. Tanaceti. . . . . Black-brown. Antennæ of 11 globules, black. Head and Corſelet ſquare. Corſelet and Shells punctured; 8 longitudinal lines on

on the latter. Length 4 lines. On common Tanſy.

2. Graminis. . . . . Convex, green-blue, bright, punctured. Eyes yellowiſh.

3. Alni. . . . . Oval, dark blue. Shells punctured. Antennæ and Legs black. On the common Alder.

4. Betulæ. . . . . Dark blue. Shells punctured in ſtriæ. Length 1½ line. On Birch trees.

5. Hæmoptera. . . . . Round, ſmooth. Wings red. Length 3½ lines.

6. Cerealis. . . . . Streaked longitudinally with alternate blue and bronze lines, and bordered with green-yellow. Wings red. Length 3 lines.

7. Polygoni. . . . . Thorax cylindrical. Globules of the antennæ of equal ſize. Head, Shells, and underſide of the Body blue. Corſelet, Thighs, and Anus red. Legs and Antennæ black. Shells ſtriated. On graſs.

8. Polita. . . . . Beneath green-bronze. Head and Thorax gilt. Shells red, punctured. Wings red. Antennæ black. Length 3½ lines. On Willows.

9. Populi. . . . . Head, Thorax, and beneath green-blue. Shells red, tipt with black. Antennæ black. Length ½ inch. On poplar trees.

10. San-

10. Sanguinolenta. . . . . Head, Corſelet, and under ſide blue. Shells punctured, black, with a red border. Wings red. Length 5 lines. In Woods.

** *Skippers. Poſterior thighs thick.*

11. Oleracea. . . . . Green-blue. Corſelet large and ſquare. Antennæ half the length of the body. Length 2 lines.

12. Hyoſcyami. . . . . Above fine blue. Shells ſtriated. Legs brown. Length 1 line. On common Henbane.

13. Exſoleta. . . . . Yellow. Eyes brown. Length 1½ line. In gardens.

14. Nitidula. . . . . Corſelet ruby-colour. Shells blue, ſtriated. Legs yellow-brown. Length 1 line.

15. Nemorum. . . . . Black, with a yellow longitudinal line on each Shell. Length ½, 1 line. On aromatic plants. *Liſt. tab. mut.* l. 2. f. 29.

*** *Body cylindrical.*

16. 4-punctata. . . . . Black, except the Shells, which are red with 2 black ſpots on each. Antennæ ſerrated, and placed before the eyes, Length 2 lines.

17. 2-punctata. . . . . Antennæ filiform, as long as the body, long-jointed. Corſelet gibbous, hemiſpheric. Colour black, except the Shells, which are red

red, with 4 black ſpots. Head partly concealed. Length 2½ lines.

18. Sericea. . . . . Rich gloſſy green. Shells punctured. Antennæ and Legs blackiſh. Corſelet gibbous. Antennæ long-jointed. Head partly concealed. Length 3 or 4 lines. *Geoff.* 233. 3.

**** *Body oblong. Thorax narrow.*

19. Cyanella. . . . . Blue-green. Antennæ filiform. Thorax long. Shells ſtriated. Length 2 lines. *Geoff.* 243. 5.

20. 12-punctata. . . . . Red. Shells with 6 black ſpots on each. Antennæ black. Length 2½ lines. On Sparagus.

21. Phellandrii. . . . . Black. Corſelet bordered with yellow. On each Shell 2 yellow ſtripes. Length 2½ lines. *Geoff.* 266. 20. On the roots of Water Hemlock.

22. Aſparagi. . . . . Head, Antennæ, and under ſide of the Body, black. Thorax red, with 2 black ſpots. Shells yellow, with a black-blue croſs, and 4 ſpots. Length 1½ line. On Sparagus.

CURCULIO. Antennæ clavated, elbowed in the middle, and fixed in the ſnout, which is prominent and horny. Joints in each foot 4.

* *Long-ſnouted.*

1. Alliariæ. . . . . Black-blue. Shells darker than the reſt, and ſtriated with

minute punctures. Size of a Flea. On Eryſimum alliaria, &c.

2. Cyaneus. . . . . Black. Shells bluiſh, and ſtriated with minute punctures. Feet brown. Target white. Size of a flea. On Willows.

3. Ceraſi. . . . . Black. Shells oblong, ſtriated. Double the ſize of a Flea. On Black Cherry-trees.

4. Pruni. . . . . Black. Antennæ brown. Two Tubercles on the poſterior part of the Thorax. On Cherry-trees.

5. Acridulus. . . . . Bluiſh black. Pyriform. Shells ſtriated. Length $1\frac{1}{4}$ line. *Geoff.* 291. 32. On plants of the claſs *Tetradynania.*

6. Purpureus. . . . . Gloſſy purple. Snout very long. Petiver found this at Epſom.

7. Granarius. *Weevil*, or *Bond.* Black-brown. Snout long and ſmall. Thorax punctured, and nearly as long as the abdomen. Length $1\frac{1}{2}$ line.

8. Dorſalis. . . . . Antennæ black-brown. Shells red, ſtriated; future black. Thighs black; Legs yellow. Size of a Flea. On the leſſer Celendine.

9. Pini. . . . . Dark grey. Extremities of the Antennæ yellowiſh. Entirely covered with minute punctures. Two obſcure browniſh broad lines on the Thorax. Abdomen remarkably gibbous towards the anus. On the Scotch Fir.

10. Lapathi.

10. Lapathi. . . . . Black and white, beſet with prickles. Shells narrow behind. Abdomen blackiſh. Legs partly reddiſh. On Docks, particularly the Water Dock.

11. Scaber. . . . . Aſh-coloured. Shells brown, obſcurely mottled with white, and covered with ſhort briſtles. Legs red. Double the ſize of a Louſe. On Nettles.

12. Quercus. . . . . Pale yellow. Eyes black. Shells with a whitiſh line near the future, and another at the baſe, forming a right angle. Somewhat larger than a flea. On the leaves of Oak-trees.

13. Viſcariæ. . . . . Head and Legs black. Thorax and Shells greeniſh aſh-colour. Oval. Villous. Size of a Louſe. On the *Lychnis viſcaria*.

14. 5-maculatus. . . . . Grey. Snout very long. On each Shell 2 white ſpots, and a black one between each. Length 2 lines.

15. Pericarpius. . . . . Black-brown, ſomewhat globous, and clouded. Shells ſtriated, with a heart-ſhaped white ſpot on the anterior part. Length 1 line. On Fig-wort.

16. Betulæ. . . . . Green-gold. Antennæ and Eyes black. The anterior verge of the Thorax is ſpinous in one ſex,

in the other not. On Birch and Alder trees. Length 2 lines.

** *Skippers; poſterior thighs thick.*

17. Beccabungæ. . . . . Black. Corſelet greyiſh brown. Shells reddiſh, with a brown margin. Size of a Louſe. On *Vernonica beccabunga.*

18. Alni. . . . . Pale brown. Head and Belly black. Shells ſtriated; 2 black ſpots on each. Length 1½ line. On the leaves of the Alder.

19. Fagi. . . . . Black. Head and Thorax punctured. Shells ſtriated. Thighs pale. On Beech-trees.

*** *Long Snouts. Thighs dentated.*

20. Pomorum. . . . . Clouded aſh-colour. On the Shells two tranſverſe brown belts. A white ſpot on the poſterior part of the Thorax. Antennæ and Feet brown. A ſtrong ſpine on each of the fore thighs. Bigger than a Louſe.

21. Nucum. . . . . Dark brown. Snout as long as the body. Abdomen ends in a point. Shells marbled; Scutellum white. Length 2 or 3 lines. In hazel nuts.

22. Scrophulariæ. . . . . Somewhat ſpherical. Thorax narrow, beſet with yellow-white hairs. Shells black-brown, ſtriated; a large black ſpot on the future, on each ſide of which are two

ſmall white ſpots. Length 3 lines. On Fig-wort.

23. Tortrix. . . . . Body oblong, yellowiſh. Breaſt brown. Shells faintly ſtriated. Thighs dentated. Twiſted in the leaves of the Poplar.

**** *Short Snouts. Thighs dentated.*

24. Pyri. . . . . Black. Snout depreſſed. Head and Thorax minutely punctured. Shells oblong, with 7 excavated ſtriæ. Antennæ and Legs reddiſh. On Pear-trees.

25. Argentatus. . . . . Covered with green-bronze ſcales. Antennæ and Legs brown. On each Shell 10 ſtriæ. Length 4 lines. In gardens.

* *** *Short Snouts. Thighs not dentated.*

26. Incanus. . . . . Black, beſet with whitiſh hair. Shells oblong, ſtriated, rounded. Antennæ red towards the baſe; firſt joint very long. No wings. Length 2—4 lines.

27. Nebuloſus. . . . . Snout thick, carinated, black, with grey longitudinal ſtripes. Thorax chagrined, and covered with white hair. Shells black, with white hair, obliquely ſtriated. Length 6 lines. On trees.

ATTELABUS. Antennæ thicker towards the apex. Head narrow behind. Four joints in each foot.

1. Coryli. ..... Beneath, Antennæ, Head, Legs black. Thorax and Shells red; the latter ſtriated. Length 3 lines.

2. Formicarius. ..... Somewhat like an Ant. Head concealed. Antennæ black, clavated. Thorax red, rough; anterior margin black. Shells with a double white belt, and red baſe. Length near half an inch. Runs quick.

3. Apiarius. ..... Black-blue. Antennæ black, clavated. Corſelet hairy. Shells with 3 pale-red belts. Length 6 lines.

CERAMBIX. Antennæ articulated, and tapering to the end. Shells long and narrow. Four joints in each foot. Thorax with lateral ſpines or tubercles.

1. Coriarius. ..... Black-brown, ſhining. Antennæ of 11 triangular joints, and proceeding from the center of the eye. Jaws ſtrong. Palpi 4. Thorax margined, tridentate. Shells margined. Length In rotten wood. *Raj.* 95.

2. Moſchatus. *Goat-chafer.* Blue-green. Antennæ length of the body. Shells with 2 longitudinal rugæ. Wings black. Length 1 inch. Smells like muſk.

3. Ruſticus. ..... Yellow-brown. Long, ſlender. Antennæ ſomewhat ſhorter than

than the body. On each Shell two narrow ridges. Belly brown. *Liſt. loqu.* 383. 10.

4. Sanguineus. . . . . Black. Corſelet and Shells red, hairy. Length half an inch.

LEPTURA. Antennæ tapering to the end. Shells narrower at the apex. Thorax ſomewhat cylindrical.

1. Aquatica. . . . . Gilt. Antennæ black. A tubercle on each ſide of the Corſelet. Shells ſtriated and truncated. Poſterior thighs larger, with a ſpine on the interior ſide. On Water-plants.

2. Melanura. . . . . Black. Shells brown-yellow, tipt with black. Antennæ length of the body. Thorax conic. Length 3—5 lines.

3. Virens. . . . . Black, covered with yellow-green hair, except part of the ſhells, which is punctured. Antennæ above black, beneath yellow. *Liſt. T. mut.* 18. 23.

4. Arcuata. *Great Waſp Beetle.* Black-brown. Antennæ length of the body. Target yellow. Three tranſverſe yellow lines on the Head; 3 on the Thorax; and 3 yellow arched lines, with as many ſpots of the ſame colour, on the Shells. Length 5—8 lines. In rotten wood. *Pet. t.* 63. 7.

5. Arietis. *Common Waſp Beetle.* Dark brown. Anterior and poſterior margin of the Corſelet yellow. Target yellow. Four yellow lines on each Shell.

6. Præuſta. . . . . Black. Shells ſoftiſh, punctured, yellow tipt with black. Fore Legs yellow. Antennæ not quite the length of the Body. Length 2 lines.

LAMPYRIS. Antennæ filiform. Shells flexile. Thorax plain, ſomewhat orbicular, concealing the Head. Sides of the Abdomen papillous and folded.

1. Noctiluca. *Glow-worm.* Male: Antennæ and Head black. Shells brown, chagrined, with 2 longitudinal raiſed lines. Near the extremity of the Abdomen 4 luminous ſpots. Length 4 lines. *Female:* No Shells nor Wings. Brown. Abdomen of 10 rings, the 3 laſt of which are luminous. Length 6 lines.

CANTHARIS. Antennæ taper. Thorax margined. Shells flexile. Sides of the Abdomen papillous and folded. In each Foot five joints.

1. Fuſca. . . . . Antennæ flat, black, yellowiſh at their baſe. Head, Shells, Legs, and Belly black-brown. Thighs, Jaws and Sides yellowiſh. Length half an inch. On flowers.

2. Livida.

2. Livida. . . . . Head orange. Eyes black. Corſelet tawny red. Shells black, or pale yellow. Legs black and yellow. Beneath black. Sides partly yellow. On flowers.

3. Ænea. . . . . Green-gold. Shells red on the external ſides. Jaws and 3 or 4 firſt beads of the Antennæ yellow: the 2d and 3d of theſe globules have each a ſharp appendix. Length 3 lines. On flowers.

4. Faſciata. . . . . Antennæ and Legs black. Thorax greeniſh. Shells black, with 2 red belts. Length 1 $\frac{1}{2}$ lines.

5. Biguttata. . . . . Greeniſh-brown. Legs yellow. Shells black-brown, abbreviated, and tipt with orange. Length 1 $\frac{1}{2}$ line.

6. Minima. . . . . Head and Antennæ black. Corſelet red, with a black ſpot on the center. Shells deep brown, tipt with yellow. Length 1 line.

ELATER. Antennæ taper, lodged in a groove under the Head and Thorax. Under ſide of the Thorax terminates in a point lodged in a cavity of the Abdomen. Laid on the back, they ſpring a conſiderable height.

1. Bipuſtulatus. . . . . Black, gloſſy. A red ſpot near the baſe of each Shell. Length 3 lines.

2. Ruficollis.

2. Ruficollis. . . . . Black. Thorax red. On each Shell 8 ſtriæ. Shells bluiſh. Length 3 lines.

3. Caſtaneus. . . . . Thorax brown, ſomewhat hairy. Shells ſtriated, yellow-brown, tipt with black. Length 5 lines. In woods, on the bark of trees.

4. Sanguineus. . . . . Black. Shells red, with 10 longitudinal ſtriæ on each. Antennæ ſerrated, eſpecially in the male. Length 5 lines. On the bark of trees.

5. Balteatus. . . . . Black. Shells ſtriated, with the anterior part yellow-red. Length 4 lines.

6. Pectinicornis. . . . . Browniſh green, with a copper tinge. Antennæ ſerrated, particularly in the male, which is alſo greener than the female. On each Shell 9 ſtriæ. Length 6 lines.

7. Niger. . . . . Black-brown, clouded, and covered with ſhort grey hair. Antennæ ſhort, and ſomewhat ſerrated. On preſſing appear 2 veſicles near the Anus. Length half an inch.

CICINDELA. Antennæ taper. Jaws prominent, denticulated. Eyes prominent. Thorax margined. In each foot 5 joints.

1. Campeſtris. . . . . Above green-gold. Beneath copper-tinged. Eyes large. Thorax

Thorax angular and narrower than the head. Six white ſpots on each Shell. An oval ſubſtance at the baſe of each thigh. Legs long and ſlender. Length 6 lines. Runs quick. In paſtures.

2. Riparia. . . . . Green-gold. Eyes black. Thorax narrow. Shells covered with broad excavated ſpots with a reddiſh ſtud in the center of each. Length 2 or 3 lines. On wet ſandy ground.

3. Aquatica. . . . . Black-bronze. Antennæ ſlender. Head deeply furrowed. Corſelet punctured. Shells ſtriated. Length 3 lines. In wet ſandy ground.

BUPRESTIS. Antennæ taper, the length of the thorax. Head half concealed.

1. Chryſoſtigma. . . . . Brown-gold. Eyes large. Thorax broad and ſhort. Shells long, narrow, ending in a point, with 3 ſtriæ and 2 gold ſpots on each. Length half an inch.

2. Ruſtica. . . . . Bright green-gold. Eyes red. A round hollow ſpot on the poſterior part of the Corſelet. Shells long and narrow, with 10 ſtriæ on each. Length 7 lines.

3. Granularis. . . . . Antennæ clavated. Above brown-braſs. Beneath black. Shells ſtriated. Thorax with 5 furrows. Size of a Flea.

DYTISCUS.

DYTISCUS. Antennæ taper, or clavato-perfoliated. Feet villous and broad.

* *Antennæ perfoliated.*

1. Piceus. . . . . Black. Antennæ of 9 joints, brown, except the laſt which is black, ſmooth, and larger. Palpi 4, 2 of which are longer than the Antennæ. Thorax and Shells plain and gloſſy. Extremity of the Abdomen ſomewhat pointed. Length an inch and a half. A ſpine at the poſterior part of the Sternum.

2. Caraboides. . . . . Black, gloſſy. Shells punctured in ſtriæ. Abdomen rounded. Antennæ and Palpi black. Spine of the Sternum ſhorter than in the laſt. Length 7 lines.

3. Fuſcipes. . . . . Black. Palpi and Feet brown. Thorax punctured. Shells ſtriated. Length 3 lines.

** *Antennæ taper.*

4. Latiſſimus. . . . . Black. Exterior margin of the Shells broad, yellow. Length 1 $\frac{1}{2}$ inch. On water.

5. Marginalis. . . . . Black. Exterior margin of the Thorax and Shells yellow. Eyes large, round, black. A tranſverſe tawny line on the upper lip. Palpi 4. Antennæ and Palpi tawny. Length 1 inch. On water.

6. Semi-

6. Semiſtriatus. . . . . Black-brown. Head, Antennæ, margin of the Thorax, exterior edges of the Shells, and beneath, yellow. On each Shell 10 ſtriæ; which extend only $\frac{2}{3}$ds. of its length. Length near an inch and half. Is not this the female of the laſt? Water.

7. Cinereus. *Small ſmooth Water-Beetle.* Head black, the anterior part yellow; alſo 5 yellow ſpots, and a tranſverſe yellow ſtripe. Shells aſh-colour, with yellow margin. Beneath black, with yellow ſpots on the Sides. Legs black and yellow. Antennæ yellow. Length 7 lines. Water.

8. Sulcatus. . . . . Shells back, with four broad furrows, in which are grey-brown hairs. Otherwiſe like the laſt, of which it is probably the female. Length 6 lines. Water.

CARABUS. Antennæ taper. Thorax and Shells margined. A large appendix at the baſe of the poſterior thighs. Five joints in each foot.

1. Granulatus. . . . . Thorax deep purple ſprinkled with copper. Shells dark green, ſtriated with gold; three rows of oblong beads, with intermediate ſtrait convex lines, on each Shell. No Wings. Length 8 lines. In the fields near London.

2. Leu-

2. Leucophthalmus. . . . . Black. On each Shell 8 ſtriæ. Thorax ſmall. *Liſt. loqu.* 390.

3. Violaceus. . . . . Black. Margin of the Thorax and Shells gloſſy violet. Length $\frac{3}{4}$ of an inch. Runs very quick. In fields.

4. Crepitans. . . . . Head, Antennæ, Thorax, Legs, red-brown. Eyes black. Shells and Belly black-blue. Shells ſtriated. Length 3 lines. Under ſtones.

5. Cyanocephalus. . . . . Head and Shells blue. Thorax and baſe of the Antennæ red-brown. Legs black and red. Length 3 lines.

6. Melanocephalus. . . . . Head, Shells, and beneath, black. Antennæ, Corſelet, Legs red-brown. On each Shell 8 ſtriæ. Length 3 lines.

7. Vulgaris. . . . . Antennæ and Legs black. Thorax as broad as long. Above black-bronze. Beneath black. Length 3 lines.

8. 6-punctatus. . . . : . . Head and Thorax gloſſy-green. Shells bright copper, faintly ſtriated, and with 6 punctures on each, ranged longitudinally; exterior margin green. Length 4 lines. On the ſand near brooks.

9. Uſtulatus. . . . . Head and Thorax black; the latter rounded. Shells black-brown, with 2 yellow ſpots on each. Baſe

Baſe of the Antennæ and Legs brown. Length 1, 2, or 3 lines.

10. 4-maculatus. . . . . Head black. Corſelet yellow, with a conſpicuous margin. Shells obtuſe, ſmooth, brown, with 2 pale yellow ſpots on each. Antennæ and Legs pale yellow. On the the ſandy banks of rivers.

TENEBRIO. Antennæ globular, and larger at the end. Thorax margined. In the 2 hind feet 4 joints, in the other 5.

1. Molitor. . . . . Winged. Above black. Beneath black-brown. Antennæ length of the Thorax. Head and Corſelet ſmooth. Shells long and ſtrait, with 9 ſtriæ on each. Upper part of the thighs large and round. Length 7 lines.

2. Mortiſagus. *Slow-legged Beetle.* No Wings. Black, not gloſſy. Antennæ of 11 globules, and placed before the Eyes, which are ſmall. Shells ſmooth, united, ending in a point. Articulation of the thighs with the body, a ball and ſocket. Fœtid. Length 1 inch. *Liſt. loq.* 388. 21. *Charlt. Ex.* 48. *Geof.* 346. 1.

3. Coeruleus. *Bloody-egg Beetle.* No Wings. Antennæ blue tipt with black. Black-blue. Shells obtuſe. Thorax orbicular. Length 1 inch. On being hurt, diſcharges a red liquor from the mouth. *Raj.* 388.

MELOE. Antennæ globular, the laſt globule oval. Thorax roundiſh. Shells ſoft. Head gibbous, and bent downwards.

1. Proſcarabeus. . . . . No Wings. Antennæ thickeſt in the middle. Black-blue. Head broad. Thorax narrower than the head, and without margin. Shells pointed and ſhort. On being touched, a brown liquor iſſues from the joints. Length 1 inch. *Geof.* 377. 1.

MORDELLA. Antennæ filiform, ſerrated, joints triangular. Head bent downwards. Palpi compreſſed, clavated, and obliquely truncated. Shells curved towards the apex.

1. Aculeata. . . . . Black. Antennæ of 11 joints, firſt 4 globular, the reſt triangular. Shells ſmooth, ſhort. Abdomen ends in a ſoft point. Four joints in the 2 hind feet, 5 in the reſt. Length 3 lines. On flowers.

STAPHYLINUS. Antennæ globular. In each foot 5 joints. Shells curtailed. Wings covered. Tail defenceleſs, with 2 veſicles.

1. Murinus. . . . . Antennæ of 9 globules. Head depreſſed. Downy, grey clouded with black. Length 6 lines. On horſe-dung.

2. Maxilloſus.

2. Maxillosus. . . . . Black, downy. Antennæ of 11 globules. Jaws as long as the head. Shells greyish, cover one third of the Abdomen. Length 1 inch. In woods.

3. Rufus. . . . . Orange colour. Antennæ somewhat larger at the ends. Head black with long Jaws. Posterior part of the Shells, and Anus black. On the middle of the Shells 2 longitudinal punctured lines. Length 3 lines.

4. Riparius. . . . . Red-brown. Head, Antennæ, and 2 last rings of the Abdomen black. Shells blue. Length 3 lines. On wet sand.

5. Chrysomelinus. . . . . Short, oval. Head and Abdomen black. Corselet and Shells straw colour. Antennæ brown, enlarging towards the end. Abdomen short, thick, villous. Length 1 line. On sand, and near walls.

FORFICULA. Antennæ tapering. Shells curtailed. Wings covered. Tail forked. In each foot 3 joints.

1. Auricularia. *Earwig.* Antennæ of 14 joints. Brown. Shells tipt with white. Length 7 lines.

2. Minor. *Less Earwig.* Pale chesnut. Antennæ of 11 joints. Length 3 lines.

II. HEMIPTERA.

Shells, or upper wings, ſemi-cruſtaceous, not divided by a ſtraight ſuture, but incumbent on each other. Beak curved downward.

BLATTA. Antennæ taper. Thorax orbicular, margined.

1. Orientalis. . . . . Brown. Head ſmall and almoſt entirely concealed. Corſelet large and oval. Shells tranſparent, membraneous, and ſhort. Three ſtriæ, the middle one ſerpentine, on each Shell. Two veſicular points, one on each ſide the laſt ring of the Abdomen. The Female has neither Shells nor Wings, but the rudiments of each. Length near an inch. In bake-houſes, and near chimnies.

GRYLLUS. Head maxillous, and with Palpi. Antennæ filiform, or taper. Wings folded. Hind legs ſtrong for leaping.

1. Bipunctatus. . . . . Dark brown. No Shells. Corſelet, gradually diminiſhing, extends to the extremity of the Abdomen. Antennæ filiform, ſhort. In each foot 3 joints. Length 4 lines.

2. Subulatus. . . . . Dark brown. Antennæ filiform, ſhort, of 13 joints. No

No Shells. Corſelet longer than the body. Length half an inch.

3. Gryllotalpa. *Mole Cricket.* Dark brown. Antennæ filiform, long, ſmall. Head long and ſmall. Four ſhort thick Palpi. Corſelet cylindrical. Shells ſhort. Whole Body villous. Two ſmall Tails. In each foot 3 joints. Fore feet large, palmated. Length 18 lines. Lives chiefly under ground.

4. Domeſticus. *Houſe Cricket.* Antennæ long, filiform. Head large, round. Thorax ſhort, broad. Shells, in the Male, longer than the Abdomen; in the Female much ſhorter. In the Female, a long hard point, thick at the end, at the extremity of the Abdomen; in both 2 appendices. Hind feet much larger than the reſt. Length 1 inch.

5. Campeſtris. *Field Cricket.* Antennæ black, almoſt as long as the body, the laſt joint very large. Thorax very ſhort. Shells oval, aſh-colour. Two Tails. Feet black. Jaws ſtrong. Lodges under ground.

6. Verrucivorus. *Great green Graſshopper.* Antennæ longer than the body, and taper. Shells clouded, and Wings reticulated; both exceed the length of the abdomen conſiderably. Beyond the Abdomen of the female extends a kind of ſword with a double blade. Length 1 inch.

7. Groſſus. *Common Graſshopper.* The larger ſort greeniſh, the leſſer red. Antennæ cylindrical, of 24 joints. A ridge in the form of an X on the Corſelet. Length 5—10 lines.

CICADA. Antennæ taper. Shells membraneous. In each foot 3 joints. Hind legs ſtrong for leaping.

1. Cornuta. . . . . Black-brown. Antennæ ſhort. Thorax bicornuted, the poſterior horn extends almoſt to the extremity of the Abdomen. Wings diaphanous, croſſed. Brown veins on the Shells. Length 4 lines. On trees, ferns, &c.

2. Spumaria. *Black-headed Froghopper*, or *Cuckow-ſpit Inſect*, or *Froth-worm.* Brown. Beneath lighter. Shells with 2 imperfect white belts, or long tranſverſe ſpots. In the midſt of white froth on diverſe plants.

3. Leucocephala. . . . . Head and forepart of the Corſelet yellow white. Shells brown, with a yellow border. Beneath yellowiſh. Length 2½ lines.

4. Lateralis. . . . . Black. Shells with a white border. Beneath white; middle of the Belly black. Length 3 lines.

5. Striata. . . . . Head pale-green, with 6 black ſpots. On the Target 2 black ſpots, with a pale circle round each.

On the Shells black and white oblique ſtriæ. Beneath brown. Length 1 ½ line.

6. Interrupta. *Striped Froghopper.* Head black with a few yellow ſpots. Corſelet black, with a yellow ſpot on the poſterior part. Target yellow in the center. Shells yellow with black lines. Beneath yellow. Length 2 lines.

7. Viridis. . . . . Head yellow, with 2 black ſpots. On the Target 2 black dots. Wings and upper part of the Abdomen lead colour. Legs yellowiſh. Length 3 lines. On water plants.

8. Ulmi. . . . . Yellow-green. Ends of the Shells brown-gold. Length 1 ½ line. On Elms.

9. Roſæ. . . . . Green-yellow. Wings white. Length 1 line. On roſe-trees.

NOTONECTA. Antennæ beneath the Eyes. Wings croſſed and complicated. Feet formed for ſwimming. Hind feet hairy.

1. Glauca. *Common Boat-fly.* Head yellow; Eyes brown, large. Thorax, anterior part yellow, poſterior black. Shells clouded black and brown. Beneath brown. Feet of 2 joints. Length 6 lines. Swims on its back. On ſmooth water.

2. Striata. *Brown Boat-fly.* Depreſſed. Head and Legs yellow. Eyes dark brown. Thorax and Shells brown with many tranſverſe undulated parallel yellowiſh lines. Feet of 1 joint. Length half an inch. Fore feet like crab's claws. Smells diſagreeably. On water.

3. Minutiſſima. *Little Boat-fly.* Grey, with longitudinal brown ſpots. Length 1 line. Swims on its back. . . . .

NEPA. Antennæ, or Fore legs cheliform. Wings croſſed and complicated; fore part coriaceous.

1. Cinerea. *Water Scorpion.* Black-brown. Head ſmall, Antennæ cheliform. Thorax almoſt ſquare. Target large, brown. Shells large. One joint in each foot. Length near an inch. In the Female the Abdomen terminates in two long appendices. Four legs only. On water.

2. Cimicoides. . . . . Olive. Antennæ very ſhort. Head broad, flat. Two fore legs cheliform. Sides of the Abdomen ſerrated. In each foot 2 joints. Length 4 or 5 lines. On water.

3. Linearis. . . . . Green-brown. Antennæ cheliform. Legs 4. In each foot one joint. Head ſmall. Thorax long, cylindrical. Abdomen red beneath. Two long Tails. Length, excluſive of the Tails, 13 lines. On ſtagnant water.

CIMEX.

CIMEX. Antennæ longer than the Thorax. Thorax margined. In each foot 3 joints.

1. Lectularius. *Houſe Bug.* No Shells or Wings. Reddiſh brown. Head and Shoulders red.

2. Scaraboides. . . . . Antennæ ſomewhat clavated. Target covers the whole Abdomen. Above black-bronze. Wings white. Legs ſpinous. Beneath black. Size of the laſt. On flowers in meadows.

3. Clavicornis. . . . . Antennæ of 4 joints, clavated. Head and Belly black. Legs brown. Corſelet black, with a white margin. Shells diaphanous, white, with black punctures on the edges. Length 1½ line.

4. Corticalis. . . . . Blackiſh. Extremely flat and thin. Head triangular. Antennæ of 3 joints. Shells and Wings grey. Abdomen long, ſlender, and imbricated at the ſides. Size of the houſe bug. On trees.

5. Betulæ. . . . . Brown-grey. Much depreſſed. Thorax furrowed, rough, black in the center, ſides grey, denticulate. Shells grey, clouded. Wings brown. Legs black; Feet red. On birch-trees.

6. Filicis. . . . . Oval, depreſſed. Head and Legs livid. Eyes, Abdomen, and

Thorax black. Shells brown, with a yellowiſh margin. On Fern.

7. Marginatus. . . . . Red-brown. Antennæ of 4 joints, red in the middle, with ſpines near their baſe. Thorax obtuſely angulated. Abdomen broader than the Shells. Length 6 lines.

8. Baccarum. . . . . Oval. Olive-brown. Beneath brown-yellow. Antennæ and ſides of the Abdomen alternate black and yellow. Thorax ſhort and very broad. A large orange ſpot at the poſterior angle of the Target. Length half an inch. Extremely fœtid. Antennæ of 5 joints. On Gooſeberry buſhes. I caught one of theſe on the bag of a gentleman's wig in Fleet-ſtreet.

9. Juniperinus. . . . . Roundiſh. Green, with yellow margins. Antennæ of 5 joints. Snout bends quite under the Belly. Corſelet large, with obtuſe angles at the ſides. Target large. All the upper part punctured, with black dots. Length half an inch.

10. Cæruleus. . . . . Oval. Blue-green-bronze. Antennæ of 5 joints, and Legs black. Corſelet and Shells punctured. Wings brown. Length 3 lines.

11. Oleraceus. . . . . Above black-blue-bronze, with red or white lines and ſpots: viz. on the Corſelet a longitudinal line; on the point of the Target a ſpot;

a ſpot; a ſpot on the anterior part of each Shell; and a line on the exterior verge of both Corſelet and Shells. Joints of the Antennæ 5. Length 3 lines.

12. Bicolor. . . . . Above black-blue. Beneath black. Exterior verge of the Corſelet white. Two white ſpots on each Shell. Membraneous part of the Shells brown. Joints of the Antennæ 5. Length 3 lines.

13. Acuminatus. . . . . Oval. Yellow-white. Antennæ of 5 joints, red-brown. Snout ſharp. Thorax narrow before; reſt of the body oval. Two brown longitudinal lines from the crown to the center of the Target. Length 3 lines.

14. Perſonatus. . . . . Black. Head ſmall; Snout long, ſharp. Eyes very large. Antennæ of 4 joints, ſharp pointed. Corſelet triangular, with 2 large tubercles on the fore part. Shells entirely membraneous. Legs long. Flies well. Length 7 or 8 lines. In houſes.

15. Hyoſcyami. . . . . *Scarlet Bug.* Antennæ of 4 joints. Head, Corſelet, poſterior point of the Target, Shells, and under ſide of the Body red. Antennæ, Eyes, and Legs black. Two black ſpots on the Head; 2 on the Corſelet, and a black croſs on the Shells. Length 4 lines.

16. Equeſtris.

16. Equeſtris. ..... Head, Corſelet, Shells, and Belly red. Eyes, Antennæ, Legs, fore part of the Corſelet, and a tranſverſe belt on the Shells, black. A white ſpot on the membraneous part of the Shells. Antennæ of 4 joints. Length half an inch.

17. Apterus. ..... Antennæ of 4 joints. Head, Antennæ, Legs, and Target black. Corſelet black, with a broad red margin. Shells red, with a round black ſpot in the middle. Beneath black, with a red margin. Length 4 lines.

18. Pratenſis. ..... Oblong. Above grey-green-yellow. On the Target a yellow heart-ſhaped ſpot, and three ſpots on the Shells. Beneath, Antennæ, and Legs yellowiſh. Antennæ of 4 joints. Length $3\frac{1}{2}$ lines.

19. Umbratilis. ..... Green yellow. A greeniſh heart-ſhaped ſpot on the Target. A brown ſpot on the Shells. Antennæ brown of 4 joints. Length $1\frac{1}{2}$ line. On flowers.

20. Striatus. *Fine ſtreaked Bugkin.* Antennæ black, of 4 joints. Eyes and Legs brown. Corſelet black, with 5 longitudinal yellow lines. Target black. Black and yellow longitudinal lines on the Shells, with a yellow triangle at the ends. Beneath black. Length 3 lines. In the woods near Hamſtead.

21. Populi.

21. Populi. . . . . Brown and white clouded. Antennæ as long as the body, taper. Shells depreſſed. Legs long, black and white. In woods, particularly on the trunk of the Poplar.

22. Ulmi. . . . . Antennæ not quite ſo long as the body, taper. Head and Thorax red-brown. Shells pale, with longitudinal crimſon veins. Wings brown, with white ſpots.

23. Abietis. . . . . Antennæ filiform, black, of 4 joints. Head ſharp, black. Thorax black, behind red-brown. Target black. Shells pale, ſides yellow, black ſpot in the middle. Legs red. Fore thighs very thick and dentated. Abdomen brown. On the Scotch Fir.

24. Lacuſtris. . . . . Above black. Beneath black and white changeable. Antennæ black, of 4 joints, half as long as the body. Eyes large, prominent. Fore legs much ſhorter than the reſt. Length 4 lines. Runs quick on the ſurface of ſtill water.

25. Stagnorum. . . . . Black-brown. Long, ſlender. Head one-third of its whole length. Antennæ as long as the head, and very ſmall. Eyes minute, prominent. Fore legs ſhort. Length $\frac{1}{2}$ inch. Breadth $\frac{1}{3}$ line. On ſtagnant water.

26. Vagabundus. . . . . Brown and white. Head large; Snout curved. Thorax long, cylindrical. Shells very long. Fore

Fore legs ſhort, thick. Four hind legs very long and ſlender. Length 2 lines. Breadth $\frac{2}{3}$ line.

APHIS. Beak inflexed. Antennæ longer than the Thorax. Wings 4, erect, or none. Feet of one joint. Extremity of the Abdomen generally forked.

1. Ribis. *Currant Louſe.* Green-brown. Antennæ black, longer than the body. Wings erect, with black veins. Podex prominent, with 2 briſtles. Size of a common louſe. On red currant buſhes.

2. Ulmi. *Elm Louſe.* Oblong, brown, covered with thin white down. Antennæ thick. Wings tranſparent, with a brown ſpot on the exterior margin. Size of a grain of millet.

3. Sambuci. *Elder Louſe.* Bluiſh black. Minute.

4. Rumicis. *Dock Louſe.* Black-bronze. Antennæ white, tipt with black. Legs grey, with bluiſh joints. Baſe of the Wings green. On the ſharp-pointed Dock.

5. Acetoſæ. *Sorrel Louſe.* Black, with a green belt.

6. Lychnidis. *Campion Louſe.* Black. Antennæ and Legs pale. Abdomen obtuſe.

7. Roſæ. *Roſe Louſe.* Green or red. Antennæ black, the length of the abdomen.

8. Tiliæ.

8. Tiliæ. *Lime Louſe.* Oblong. Greeniſh. Antennæ and Legs black and white. Wings bordered and ſpotted with black.

9. Braſſicæ. *Cabbage Louſe.* Green, mealy.

10. Craccæ. . . . . Oval, margined, bluiſh-black, mealy.

11. Sonchi. . . . . Black, or ſometimes bronze. Between the tails a third appendix, curved upwards. On the Sow-Thiſtle.

12. Cardui. . . . . Brazen-black, poliſhed. Legs and Antennæ black, with the baſe whitiſh. Abdominal appendix black. On Thiſtles.

13. Tanaceti. . . . . Red-brown. Rudiments of the Wings, Antennæ, and Legs paler. On Tanſy.

14. Abſinthii. . . . . Black. Back greyiſh, with a large brown ſpot. Middle appendix erect.

15. Jaceæ. . . . . Black. Wings white. Extremity of the Abdomen brown. On common Knapweed.

16. Betulæ. . . . . Greeniſh. No Wings. Sides ſpotted with black. On Birch-trees.

17. Fagi. . . . . Green, covered with white down. On Beach-trees.

18. Quercus.

18. Quercus. . . . . Brown. Trunk three times as long as the Body. Under the bark of trees.

19. Salicis. . . . . Black, with white ſpots. Tails brown. On Willows.

20. Populi. . . . . Oval, livid. On each ſide 5 white ſpots. No Tails. Rudiments of the Wings acute. On Poplars.

21. Aceris. . . . . Green. Middle of the Head and of the Corſelet black. A brown ſpot near the Tail. On the leaves of the Maple.

22. Atriplicis. . . . . Green. Eyes black. Rolled up in the leaves of graſs-leaved Orache.

CHERMES. Trunk or Snout proceeding from the Breaſt, between the firſt and ſecond pair of Legs. Antennæ longer than the Thorax. Wings 4, deflexed. Thorax gibbous. Skip.

1. Graminis. . . . . Antennæ whitiſh, tipped with black. Legs white. Head and Thorax grey, with white lines. Does not ſkip.

2. Pyri. . . . . Grey. Abdomen ſhort, with tranſverſe white lines. On Pear-trees.

3. Sorbi. . . . . Above ſtreaked with black. Beneath greeniſh. Corſelet yellowiſh, with two dots on the anterior part, and on the poſterior 4 black lines. On the mountain aſh.

4. Urticæ.

4. Urticæ. . . . . Brown. Sides and Legs white. Antennæ black, baſe white. Eyes yellowiſh. On Nettles.

5. Alni. . . . . White. Eyes lateral, prominent. Tail forked. Antennæ variegated. Mouth black, between the 1ſt and 2d pair of Legs. On the common alder.

6. Quercus. . . . . White-yellow. Shells with 4 brown ſpots on the exterior, and one on the interior Margin. On the leaves of the Oak.

7. Abietis. . . . . White-yellow. Antennæ taper. Eyes brown, with a black ſpeck between them. Wings bluiſh. Length 2 lines. In large tubercles on the ends of the branches of the common Fir.

8. Fraxini. . . . . Brown. Antennæ ſmall and taper. On the Corſelet a tranſverſe belt, and a longitudinal yellow line. Wings longer by half than the Abdomen, which is blackiſh. Length $1\frac{1}{2}$ line. On Aſh-trees.

COCCUS. Trunk proceeding from the breaſt. Wings, in the Male, 2, erect; Female none. Four or 6 white briſtles at the extremity of the Abdomen.

1. Heſperidum. *Green-houſe Bug.* Oval, brown, oblong, covered with a kind of varniſh. Legs 6. A notch and 4 briſtles at the

Tail. When young it runs upon the trees, but afterwards fixes on ſome leaf where it hatches an infinity of eggs, and dies. The male is a very ſmall fly. On Orange-trees, &c.

2. Betulæ. . . . . Green-brown. On Birch-trees; on the divarications of the branches.

3. Phalaridis. . . . . Red-white, mealy. On Canary-graſs.

THRIPS. Beak obſcure. Antennæ as long as the Thorax. Body narrow. Wings 4, ſtraight, narrow.

1. Phyſapus. . . . . Black. Shells bluiſh. Antennæ of 6 joints. Wings very narrow. Runs quick, and ſkips. Leſs than a Flea. Frequent on Dandelion. &c.

2. Juneperina. . . . . Antennæ of 7 joints, yellowiſh. Corſelet and Abdomen black. Shells and Wings grey. Legs black. Feet, of two joints, yellowiſh. Runs ſwift. On the bark of old trees. Length 1 line.

3. Faſciata. . . . . Black. Shells with 3 white belts. Leſs than a Flea. On flowers.

III. LEPIDOPTERA.

Wings 4, imbricated with very minute ſcales. Tongue, or Trunk, ſpiral. Body hairy.

PAPILEO.

PAPILEO. Antennæ clavated. Wings, when at reſt, erect. Diurnal.

1. Machaon. *Royal William*, or *Swallow-tail Butterfly*. Black and yellow. Body black above, yellow on the Sides and Belly. Eyes, Antennæ, and Trunk black. Firſt Wings rounded, in the middle yellow, with black lines; near the poſterior verge 8 yellow ſemilunar ſpots. Second Wings black and yellow, with 2 long Tails, and 2 orange ſpots, ſurrounded with blue, at the poſterior angle. Caterpillar large, ſmooth pale-green, with black tranſverſe ſtripes ſpotted with orange. On umbelliferous plants. Breeds in May and July.

2. Podaliripus. . . . . In ſhape and colour much like the laſt, but the yellow is paler, and the Tails longer and narrower. On the 1ſt Wing, 6 black ribs, and a black margin. On the 2d, an oblique black rib, and a black border with 4 or 5 blue ſemilunar ſpots, and near it 6 yellow ſpots. Rare, in woods.

3. Cratægi. *White Butterfly, with black veins.* Wings rounded. Breadth near $2\frac{1}{2}$ inches. In meadows in June. Caterpillar black, covered with white and yellow hair: feeds on the white thorn.

4. Braſſicæ. *Great White Cabbage-Butterfly.* Firſt Wings white, with 2 black ſpots in

the middle, and black at the extremities. Second Wings white, with a black ſpot on the ſuperior margin. The female has no black ſpots on the upper ſurface. Caterpillar yellow, black, and blue. Breeds in May and July.

5. Rapæ. *Small White Cabbage-Butterfly.* Like the laſt, but leſs. Caterpillar green, with a pale yellow line on each ſide.

6. Napi. *White Butterfly, with green veins.* White above. Firſt Wings tipt ſlightly with black, and the under ſurface of the 2d Wings ſpread with broad green veins. Female has 2 or 3 black ſpots on the upper ſurface of the Wings. Caterpillar, feeds on cabbage, &c.

7. Cardamines. *Orange Tip.* Wings rounded, a little ſcallopped. Firſt Wings, the ſuperior part, orange, tipt with brown; a ſemilunar black ſpot near the center, the reſt white. Second Wings, beneath, marbled with green. Middle ſize. Female wants the orange-colour. Caterpillar green, feeds on graſs.

8. Hyale. *Saffron Butterfly.* Wings entire, rounded, yellow. On the 1ſt Wings a black, and on the ſecond an orange ſpot, bordered with black. Antennæ and Legs yellow. Breadth 2 inches. In autumn, but rare.

9. Rhamni. *Brimſtone Butterfly.* Wings angulated, entire, pale greeniſh yellow, with a ſmall brown ſpot near the center of each.

each. Antennæ brown. Caterpillar green, feeds on the Buckthorn. Breeds in July or Auguſt.

10. Hyperantus. *Brown-Eyed Butterfly.* Wings entire, brown. Beneath, on the 1ſt Wings 3 eyes, on the 2d 5. Common near woods. July and Auguſt.

11. Jo. *Peacock Butterfly.* Wings angulated, indented, yellowiſh red, with a large blue eye on each. Caterpillar black, dotted with white; on nettles. Common all ſummer.

12. Mæra. *Great Argus.* Brown and orange variegated. Second Wings ſlightly ſcallopped. Above, 1ſt Wings, a black Eye, white in the center; 2d wings 3 eyes. Beneath, 2d Wings, 7 eyes on each. Reſts frequently on walls and ſtones. Caterpillar ſmooth, feeds on graſs.

13. Ægeria. *Wood Argus-Butterfly.* Wings rounded, and a little indented. Above brown, with orange irregular ſpots. On the 1ſt Wings, near the upper angle, a black eye with a white pupil, and 3 on the 2d. Caterpillar ſmooth, green. July and Auguſt. On graſs.

14. Galathea. *Marble Butterfly.* Wings rounded, indented. White, with black lines and irregular ſpots. Beneath, on the 1ſt Wings, one ſmall Eye, on the 2d 5. Caterpillar ſmooth, yellow.

15. Semele. *Black-eyed Marble Butterfly.* Wings indented, black-brown, with a light yellow broad tranſverſe ſtripe, on which are 2 eyes on the 1ſt wings, and 1 on the 2d, which are waved with white. In woods.

16. Jurtina. *Meadow Brown Butterfly.* Wings above brown, yellow in the middle, with one Eye in the 1ſt. Beneath, 2d Wings grey in the middle, indented. Common in meadows.

17. Cardui. *Painted Lady.* Wings indented. Above, 1ſt Wings, towards the extreme angle, black, with white ſpots; the reſt orange, ſpotted with black: 2d Wings orange, with a range of black ſpots near the Margin. Beneath, 1ſt Wings variegated with black, white, orange, yellow: 2d marbled with grey, yellow, brown, and 5 Eyes near the Margin. Caterpillar grey, ſpinous: feeds on nettles.

18. Iris. *Emperor of the Woods*, or *Purple High-flyer.* Wings indented. Above purple, darker round the edges, with 7 diſtinct white ſpots on the 1ſt Wings; on the 2d an irregular broad white ſtripe, and a yellow eye. Beneath black, brown, and white. Large.

19. Antiopa. *Willow Butterfly.* Wings angulated, black, with a yellow-white external border. In the anterior margin of the 1ſt Wings, 2 long yellowiſh ſpots

ſpots. Between the black and yellow a range of bluiſh eyes. Body and Antennæ black. Caterpillar black, ſpinous, with large brown ſpots. Very rare in this kingdom.

20. Polychloros. *Great Tortoiſe-ſhell Butterfly.* Deep orange, with black ſpots. Wings conſiderably indented. Above, on the 1ſt Wings 7 ſpots, on the 2d 1, and a broad exterior black border edged with black and yellow. The 2 black ſpots which touch the anterior edge of the 1ſt wings, are long and much larger than the reſt. Beneath black-brown and dull yellow. Caterpillar brown and yellow, ſpinous; feeds on Elms, Pear-trees, &c.

21. Urticæ. *Small Tortoiſe-ſhell Butterfly.* Much like the laſt, but leſs. On the 1ſt Wings 6 black ſpots, 2 of which are very ſmall, and one whitiſh ſpot. Caterpillar feeds on nettles. Flies early in the ſpring.

22. C. album. *Comma Butterfly.* Orange, ſpotted with black. Wings much indented. Beneath, on the 2d Wings, a white ſpot in the ſhape of a comma, C, or G. Legs white in the middle. Caterpillar ſpinous, brown on the Sides, and white on the poſterior half of the Back. On hops and nettles.

23. Atalanta. *Admiral Butterfly.* Wings black, indented; a broad tranſverſe fire-red

ſtripe, and 7 or 8 white ſpots on the 1ſt pair; a red poſterior margin, and 4 black dots on the 2d. Caterpillar grey, ſpinous; on nettles.

24. Lucina. *Small Fritillary.* Wings indented. Above red-brown, with minute yellow, black and white ſpots. Beneath, on the 2d wings, a double band of white ſpots, and ſome black ones near the poſterior margin. Frequent near Cambridge. Sometimes in Hornſey-Wood.

25. Maturna. *Heath Fritillary.* Above orange, longitudinally ſtreaked, and tranſverſely waved with black; bordered with ſmall ſemilunar white ſpots. Wings entire. Yellow ſpots on the under ſurface of the 2d Wings. Caterpillar black, ſpinous.

26. Cinxia. *Plantain Fritillary.* Above like the laſt, but the tranſverſe waves are more diſtinct, and on the 2d Wings are 8 black dots. Beneath, the 1ſt Wings have a yellow exterior border, and the 2d 3 broad yellow ſtripes. Caterpillar black-blue, ſpinous. In meadows.

27. Paphia. *Great Fritillary.* Large. Above, pale orange, with fine black veins, and ſeveral rows of large, round, black ſpots. Beneath, the 2d Wings are greeniſh, with 4 ſilvery tranſverſe waves, in the exterior of which are 4 circular ſpots. Caterpillar, above brown, beneath yellow, ſpinous, with 2 long horns. On nettles.

28. Aglaja. *Great Fritillary Butterfly with ſilver ſpots.* Large. Wings a little indented. Above pale orange, with many round black ſpots. Beneath, on the 2d Wings, 21 or 22 ſilver ſpots, 7 of which are ſemilunar, and regularly ranged near the margin. Caterpillar ſpinous, black with a line of yellow ſpots on each ſide. In woods.

29. Lathonia. *Leſs Silver-ſpotted Fritillary.* Silver ſpots 30. Caterpillar brown, with a yellow line on each ſide.

30. Euphroſyne. *April Fritillary.* Above yellow, with black veins and tranſverſe waves. Beneath 9 ſilver ſpots on the 2d Wings. *Geof.* 44. 11.

31. Betulæ. *Brown Hair-ſtreak Butterfly.* Leſs than the middle ſize. Dark brown, with a large oblong orange ſpot on the 1ſt Wings. Beneath yellow and orange. Two ſhort appendices to the 2d Wings. Caterpillar flat, and broadeſt in the middle. On the black thorn.

32. Quercus. *Purple Hair-ſtreak Butterfly.* Above deep purple, with a white exterior margin. Beneath grey, ſtreaked longitudinally, and waved tranſverſely, with 2 yellow eyes, and a ſhort appendix to each of the 2d Wings. Caterpillar broad in the middle, and ſharp at each end. On oaks.

33. Argus. *Blue Argus.* Above fine blue, with a white fringe on the exterior margin.

Beneath grey, ſprinkled with ſmall black eyes. Small ſize. Caterpillar broad in the middle. Some of this ſpecies of Butterflies have yellow-black eyes on the upper ſurface of the wings.

34. Argiolus. ..... Above blue, with a black exterior margin. Beneath bluiſh grey, ſprinkled with black ſpots. Small.

35. Rubi. *Green Butterfly.* Wings indented. Above brown. Beneath green. Small. Caterpillar green, with a red head; broad in the middle. On brambles.

36. Pamphilus. *Small Heath Butterfly.* Above orange, with a brown exterior margin. Beneath, one Eye in the angle of the 1ſt Wings, and on the 2d a tranſverſe white wave. Caterpillar ſmall, with a red head. *Geoff.* 53. 21.

37. Phlæas. *Small Golden Black-ſpotted Butterfly.* Wings orange-bronze, ſpotted with black. Short appendices to the 2d Wings. Small ſize. *Geoff.* 65. 35.

38. Comma. *Chequered Hog.* Deep yellow, with black veins and margin, and a black tranſverſe long ſpot on the 1ſt Wings. Small ſize. When at reſt, the 1ſt wings ſtand perpendicular, and the 2d horizontal. In meadows in autumn.

39. Malvæ. *Grizzle*, or *Brown March Fritillary.* Brown, ſpeckled with white, and fringed with brown and white. In meadows in the ſpring. Caterpillar grey; head black,

black, and a few yellow ſpots round its neck. On mallows and thiſtles.

SPHINX. Antennæ thickeſt in the middle. Wings, when at reſt, deflexed. Fly ſlow, morning and evening only.

1. Ocellata. *Eyed Willow-Hawk Moth.* No trunk. Wings indented. Above, 1ſt Wings dark and light brown, marbled; 2d red, with a large yellow-black eye. Beneath, a large red triangle from the baſe of the 1ſt wings. Breadth 1½ inch. Caterpillar ſmooth, green, with oblique white lines on the ſides, and a poſterior horn. Eggs green. On willows.

2. Populi. *Poplar-Hawk Moth.* Wings ſcallopped, bluiſh grey, waved with dark lines. On the 1ſt Wings a long white ſpot, and the baſe of the 2d red-brown. Wings reverſed. Length 1 inch. A long ſpiral trunk. Caterpillar green, ſmooth, with oblique white ſpots, and a poſterior horn. On poplars and willows.

3. Tiliæ. *Lime-Hawk Moth.* No trunk. Wings ſcallopped. Antennæ white on the upper ſide, yellow on the under. Above, 1ſt Wings grey-brown, with 2 irregular large green ſpoots; 2d Wings orange. Beneath greeniſh grey. Caterpillar green, chagrined, with a poſterior horn.

4. Convolvuli. *Unicorn*, or *Bindweed-Hawk Moth.* Antennæ long, thick. Trunk very

long, ſpiral. Above, body marked with black and red belts; Wings entire, brown-grey, with black zig-zag tranſverſe lines. Breadth 3 inches. Caterpillar ſmooth, green, with a poſterior horn.

5. Liguſtri. *Privet-Hawk Moth.* Antennæ long, thick, brown. Trunk long, ſpiral. Firſt Wings 2 inches long, narrow, entire, brown; 2d ſhort, red, with black bars. Abdomen red with black rings. Caterpillar ſmooth, yellow-green, with a poſterior horn.

6. Atropos. *Jeſſamine-Hawk Moth.* Wings entire. Trunk long, ſpiral. Above, 1ſt Wings brown, clouded with grey and yellow, and a yellowiſh ſpot in the center; 2d yellow, with 2 waved tranſverſe ſtripes. Abdomen yellow, with 7 black-brown belts. Thorax marked like a Death's-head. Length 2 inches.

× Caterpillar very large, yellow, with 6 green and orange oblique belts, and a poſterior horn.

7. Elpenor. *Elephant Moth.* Wings angular, entire. Above, 1ſt Wings ſtriped tranſverſely with red and green; 2d black at the baſe, and red outwards. Body red and green. Caterpillar ſmooth, brown and yellow, with a poſterior horn, and a ſnout like a Hog. On vines, convolvulus, &c.

8. Stellatarum. *Large Bee Moth.* Antennæ thick towards the ends, brown. Trunk ſpiral.

ſpiral. Wings ſhort, entire. Body thick, brown, hairy. Firſt Wings brown, waved; 2d red-brown. Reſembles a large Bee. Caterpillar ſmooth, with a poſterior blue horn, tipt with red. On gallium.

9. Tipuliformis. *Small Bee Moth.* Thorax yellow beneath. Wings ſhort, with black veins. Abdomen black, bearded, yellow at the extremity. Caterpillar, on the Lonicera.

10. Filipendulæ. *Burnet Moth.* Antennæ, Legs, and Body black. Second Wings red, with a greeniſh border. Firſt Wings bluiſh green, with 6 red ſpots, in pairs. Length 8 lines. Caterpillar yellow, with black ſpots. On graſs.

PHALÆNA. Antennæ taper from the baſe. Wings, in general, contracted when at reſt. Fly by night.

1. Pavonia. *Emperor Moth.* Antennæ feathered. No trunk. Wings expanded, horizontal, rounded, entire, with a large eye in the center of each; the 1ſt red-brown, waved; the 2d orange. The Antennæ of the male are broader, and the wings of the female larger, waved with black and white, and bordered with yellow. Caterpillar green or yellow, ſpinous. On thorns and brambles. Length of the Moth 1 inch.

* *No Trunk. Wings reverſed*, i. e. *1ſt Wings horizontal, and 2d erect.*

2. Quercifolia. *Lappit Moth.* Red-brown, with tranſverſe waved lines. Wings rounded and regularly ſcallopped. No Trunk, but a ſharp Noſe. Length 1¼ inch. Caterpillar mouſe colour, ſpinous, with a trunked poſterior horn. Eggs blue, with brown hoops. On brambles and black thorn.

3. Rubi. *Fox-coloured Moth.* Antennæ fringed. Wings entire, with a whitiſh margin; 2 whitiſh tranſverſe waves on the 1ſt pair. Caterpillar brown, with black rings. On brambles, &c.

4. Potatoria. *Drinker Moth.* Yellow-brown. Wings ſlightly ſcallopped: on the 1ſt pair, a dark oblique line from the extreme angle, and 2 white ſpots near the anterior edge. Noſe ſharp. Length 1 inch. Caterpillar hairy, black and brown, with white ſpots on the ſides. On graſs.

5. Pini. *Pine Lappit Moth.* Wings ſlightly ſcalloped: 1ſt pair waved with alternate broad tranſverſe grey and brown ſtripes; a white triangular ſpot near the anterior edge. Length 1¼ inch. Caterpillar large, brown, grey, white. On pines.

6. Quercus. *Great Egger Moth.* Antennæ feathered. Yellow-brown. Half the Wings, next the Body, darker; near the center of the 1ſt a white ſpot. Firſt Wings alſo

alſo darker at the extremities, and the 2d have a whitiſh margin. Length 1 inch. The female larger, and lighter coloured. Caterpillar whitiſh, with black rings. On oaks, &c.

7. Laneſtris. *Small Egger Moth.* Dark brown. Wings rounded: on the 1ſt a white tranſverſe wave, and two white ſpots; on the 2d a wave only. Tail broad and woolly. Length $\frac{2}{3}$ inch. Caterpillar hairy, black, with white rings and dots, and large orange ſpots. On the black and white thorn.

8. Vinula. *Puſs Moth.* Antennæ feathered. Wings grey, ſtreaked, dotted, and waved with black. Thorax dotted with black. Wings ſomewhat diaphanous. Length 1 inch. Caterpillar green, high ſhouldered. Face and Back red. Two Tails. On oaks, willows, and poplars.

9. Bucephala. *Buff-tip Moth.* Antennæ feathered. Firſt Wings grey, with 2 double tranſverſe brown waves, and a large yellowiſh round ſpot at the extreme angle. Second Wings plain, light yellow. Length ſcarce 1 inch. Caterpillar hairy, yellow, with black ſpots. On oaks, aſh, &c.

10. Verſicolora. *Glory of Kent.* Antennæ feathered, blackiſh. Firſt Wings red-brown, with 2 tranſverſe waved black and white lines, and 3 white ſpots at the extream angle. Second Wings orange, with 2 white ſpots at the exterior

terior angle. Very rare. Length $\frac{1}{4}$ inch.

11. Populi. *December Moth.* Firſt Wings dark brown, with 2 tranſverſe waved white lines, a white ſpot at the baſe, and ſpeckled margin. Second Wings light brown, with a tranſverſe white wave. Length more than half an inch. Caterpillar yellow, hairy. On oaks, hazel, &c.

12. Neuſtria. *Lackey Moth.* Antennæ feathered. Light yellow, with a broad tranſverſe darker wave athwart the middle of both wings, bounded by a brown line above and below. The exterior margin of both Wings ſpeckled. Length $\frac{1}{4}$ inch. Caterpillar long, ſlender, ſtriped with blue, red, and white. On thorns.

** *No Trunk. Wings depreſſed, deflexed. Back ſmooth.*

13. Caja. *Great Tyger Moth.* Antennæ feathered. Firſt Wings white, with large irregular dark brown ſpots. Abdomen and 2d Wings orange, with black ſpots. Caterpillar, foxy, hairy, with white ſpots on the ſides. On lettuce, &c.

14. Villica. *Cream-ſpot Tyger Moth.* Antennæ, Head, and Thorax black, with a white ſpot on each ſide the latter. 1ſt Wings black, with 8 large irregular cream-coloured ſpots. Abdomen orange, with black ſpots. Length near 1 inch. Caterpillar

terpillar hairy, foxy. On elms, nettles, &c.

15. Plantaginis. *Wood Tyger Moth* Antennæ of the male feathered; of the female, like briſtles. Firſt Wings black, with irregular broad white lines. Second Wings yellow, with black ſpots. In the female, the broad lines are yellow. Abdomen red at the ſides. Length $\frac{3}{4}$ inch. Caterpillar hairy, black, with a red Head. On plantain, &c.

16. Monacha. *Black Arches.* Firſt Wings white, tranſverſely waved with black. Second Wings bluiſh white, with black dots in the margin. Abdomen red, pointed. Caterpillar yellow-white, with black ſpots, hairy. On willows, oaks, &c. Length of the Moth $\frac{3}{4}$ inch.

17. Diſpar. *Gipſey Moth.* Antennæ black, and remarkably feathered, eſpecially thoſe of the female. Firſt Wings grey, with 4 tranſverſe zig-zag lines, and a black ſpot. External margin of both Wings ſpotted with black. Abdomen of the female round, thick, and covered with thick down at the extremity. Caterpillar hairy. On oaks, aſh, apple-trees, &c. Frequent about Ealing in Middleſex.

18. Chryſorrhœa. *Yellow-tail Moth.* Antennæ feathered. Entirely white, except the extremity of the Abdomen, which is yellow and hairy. Caterpillar black and red, hairy. On apple-trees, oaks, &c.

19. Salicis.

19. Salicis. *White Satin Moth.* Antennæ feathered, black. Body grey. Wings white. Legs black and white. Length near an inch. Caterpillar hairy, black, ſpotted with white. On willows, poplars, &c.

20. Coryli. *Nut-tree Tuſſock Moth.* Antennæ taper. Firſt Wings grey and brown, tranſverſely waved. Second Wings white, with a brown and white margin. Caterpillar red-brown, with 2 dorſal and 1 tail tuft.

**** No Trunk. Wings depreſſed. Back hairy.*

21. Pudebunda. *Yellow Tuſſock Moth.* Antennæ feathered, brown. Wings light grey, with faint tranſverſe waves on the 1ſt pair. Fore-feet ſtretched out beyond the Antennæ. Length 1 inch. Caterpillar greeniſh yellow, with 4 bruſhes on the back, and a red tail. On fruit trees.

22. Faſcelina. *Black Tuſſock Moth.* Antennæ feathered. Brown-grey, with 2 tranſverſe red-brown waves on the 1ſt Wings. Second Wings plain, with longitudinal and a ſlight margin. Abdomen grey, broad, and thick ſet with down, at the extremity. Caterpillar, with 5 white bruſhes, tipt with black. On hedges.

23. Antiqua. *White-ſpot Tuſſock Moth.* Antennæ feathered, black. Firſt Wings cloudy orange, waved and ſpotted with brown, and

and a white ſpot on the poſterior angle. Female without Wings. Caterpillar with 4 white bruſhes on its back. On trees. Length of the Moth a little more than $\frac{1}{2}$ inch.

24. Gonoſtigma. *Orange Tuſſock Moth.* Differs very little from the laſt, except that the ſpot on the Wings is not white. Female without Wings.

25. Cæruleocephala. *Black-thorn Moth.* Antennæ feathered. Body brown. Firſt Wings brown, marbled with bluiſh green in the form of a double contiguous circle. Second Wings lighter coloured, plain, with a browniſh margin, ſcallopped. Length $\frac{3}{4}$ inch. Caterpillar green and yellow, with ſmall black dots. On fruit trees.

26. Ziczac. *Pebble Moth.* Brown and white, clouded like an Agate. Antennæ feathered. On the interior margin of the 1ſt Wings, a remarkable appendix; 2d Wings ſcallopped. Length 7 lines. Caterpillar ſmooth, with 2 protuberances on its back.

27. Coſſus. *Goat Moth.* Grey, with ſhort black irregular curved lines. Antennæ foliated. Abdomen yellowiſh, with dark curved belts. Length $1\frac{1}{2}$ inch. Caterpillar red, with few hairs and a black head. In rotten wood.

**** *Spiral Trunks*; *Back ſmooth*; *Wings deflexed.*

28. Lubricipeda. *Spotted Buff Moth.* Irregularly ſpotted with black. Abdomen orange,

with 5 black ſpots on the back and ſides. Caterpillar light brown, hairy. On fruit trees.

29. Ruſſula. ..... Antennæ feathered. Body and Wings yellow, with a red border. On the 1ſt Wings, a brown and red ſpot; on the 2d two tranſverſe ſtripes, and a brown arch.

***** *Back creſted.*

30. Libatrix. *Furbelow Moth.* Antennæ a little feathered. Head and Thorax yellow. Wings truncated, orange, variegated with brown and aſh-colour, with a white ſpot near the baſe. Caterpillar ſmooth, green, with a white line along the Back. On willows, roſe-trees, &c.

31. Oo. *Scallop-winged Oak Moth.* Firſt Wings brown-grey, with circles in the middle. Second Wings grey, with a brown margin. Caterpillar ſmooth, orange, with white ſpots. On oaks.

32. Humuli. *Otter Moth.* Antennæ ſhort. Wings long, yellow, with oblique red ſtriæ. Wings of the male white. Body yellow in both. No Trunk.

** *Spiral Trunk; Back ſmooth, without creſt.*

33. Dommula. *Scarlet Tyger Moth.* Firſt Wings black with orange ſpots. Second Wings ſcarlet, with black ſpots. Thorax black, with 2 yellow ſpots. Abdomen black and ſcarlet. Caterpillar brown and yellow. On nettles, graſs, &c.

34. Fuliginoſa.

34. Fuliginosa. *Spotted red and white Under-wing Moth.* First Wings brown-red, with 2 small black dots. Second Wings bluish, with 2 black dots, and a brown margin. Length half an inch. Caterpillar hairy, brown. On turnips, mustard, &c.

35. Jacobææ. *Cinnabar Moth.* Antennæ and Body black. First Wings black, with a longitudinal red line near the anterior margin, and 2 red spots near the exterior. Second Wings red, with a black margin. Length 8 lines. Caterpillar, with alternate black and orange belts. On ragwort.

36. Quadra. *Yellow July Oak Moth.* Yellow, with 2 black-blue spots on the 1st Wings. Caterpillar hairy, yellowish, with one large black-brown spot on the middle of his back.

37. Nupta. *Crimson under-wing Moth.* First Wings grey and brown undulated; 2d crimson with 2 broad transverse black waves. Length one inch. Caterpillar smooth, grey. On oaks.

38. Pacta. *Willow red-under-wing Moth.* Abdomen, above reddish. First Wings irregularly waved, grey and brown; 2d crimson, with 2 broad black waves, and grey exterior margin. Length above an inch. Caterpillar brown, with few hairs. On willows.

39. Pronuba. *Great yellow Under-wing Moth.* Antennæ taper. Body and 1ſt Wings brown-grey, clouded or waved, with a black ſpot in the middle, and another near the exterior angle. Second Wings yellow, with a broad black wave near the exterior margin. Length one inch. Caterpillar ſmooth, yellow. In gardens. Feeds in the night.

40. Fraxini. *Cliefden Nonpareil.* Antennæ taper. Thorax brown. Abdomen bluiſh. Firſt Wings grey, tranſverſely undulated, with a large white ſpot in the centre. Second Wings black, with a broad tranſverſe blue curve in the middle. Margin of both Wings ſcallopped. Length 1½ inch. Rare.

41. Chryſitis. *Green Silken Moth.* Head, Antennæ and Thorax pale yellow. Firſt Wings brown, marbled, with 2 tranſverſe gold-green waves, and a whitiſh ſpot. Second Wings brown-grey. Margin of the Wings ſcallopped. Caterpillar ſmooth, orange, with white ſpots.

42. Gamma. *Lambda Moth.* Wings brown, marbled, with a white or yellowiſh mark, reſembling the Greek lambda, on the 1ſt pair. Length 8 lines. Caterpillar ſmooth, green. On ſage, &c.

43. Feſtuca. *Gold-ſpot Moth.* Firſt Wings brown, with 2 or 3 ſilver-gold ſpots. Second Wings plain yellow. Head, Antennæ,

Thorax orange. Abdomen yellow. Length 8 lines. Caterpillar ſmooth, green. On water-graſs, &c.

44. Meticuloſa. *Angle Shades.* Antennæ taper. Wings grey, marbled. Firſt pair reddiſh at the baſe, brown in the middle, with a threefold triangle near the anterior margin. Second Wings light grey, with a black ſpeck in the center. Margin of both Wings irregularly indented. Caterpillar ſmooth, green. On pot herbs.

45. Pſi. *Dagger Moth.* Antennæ taper. Body grey. Eyes black. Firſt Wings whitiſh, with 3 or 4 black marks in the form of daggers, or like the Greek pſi. Second Wings plain, with ſcallopped margin. Length 9 lines. Caterpillar hairy, black, yellow, with a black horn. Sides black and red.

46. Aceris. *Sycamore Tuſſock Moth.* Antennæ taper. Firſt Wings bluiſh grey, with undulated black lines, and an oval ring. Second Wings plain with a double dotted margin. Caterpillar yellow, with a long orange tuft. On maples, walnut-trees, &c.

47. Exſoleta. *Sword-graſs Moth.* Corſelet black-brown. Abdomen reddiſh white. Firſt Wings long, narrow, anterior half whitiſh, with brown lines, poſterior red-brown. Second Wings duſky, with a whitiſh ſcallopped margin. Caterpillar

pillar green, with a yellow lateral line. On Chenopodium, Campanula, &c.

48. Verbaſci. *Water-Betony Moth.* Antennæ taper. Firſt Wings long, narrow, brown-grey, longitudinally ſtreaked, lighteſt in the middle, margin indented. Second Wings brown, ſmall. Caterpillar yellow, ſmooth, with 4 black ſpots on each ring. Length of the Moth nearly one inch.

49. Rumicis. *Bramble Moth.* Firſt Wings brown, clouded with black, with annular white ſpots, and a tranſverſe white line near the margin. Second Wings dark brown, with a whitiſh ſcallopped margin. Caterpillar black-brown, hairy. On brambles and thiſtles.

50. Oxyacanthæ. *Ealing's Glory.* Antennæ taper. Firſt Wings dark brown, with 2 irregular orange ſpots, a tranſverſe line and external margin of the ſame colour; alſo a blue tranſverſe line, and blue poſterior margin. Second Wings duſky. Length not quite 1 inch. Caterpillar brown and yellow. On thorns.

51. Oleracea. . . . . Antennæ taper. Body thick, ſhort, hairy. Firſt Wings narrow, red-black, with a whitiſh circle near the middle, and a white tranſverſe line, with 2 points in the middle. Second Wings reddiſh grey, with a black ſpot in the center. Caterpillar ſtriped purple and yellow. On peas, beans, &c.

52. Piſi,

52. Piſi. *Broom Moth.* Body darkiſh grey. Firſt Wings red-brown, clouded with black, and light yellow; 2 yellowiſh ſpots in the middle, and a yellowiſh narrow undulated line near the exterior margin. Second Wings grey, with a whitiſh margin. Length not quite 1 inch. Caterpillar ſmooth, browniſh yellow. On broom, peas, &c.

53. Atriplicis. *Wild Arrach Moth.* Firſt Wings brown, blue, and yellow, clouded; a double yellow wave near the exterior margin, and a longiſh bifid tranſverſe yellow mark near the center. Second Wings brown. Caterpillar ſmooth, brown.

54. Delphinii. *Peaſe Bloſſom.* Firſt Wings purpliſh, with 2 yellowiſh tranſverſe waves. Second Wings duſky. Small ſize. Caterpillar ſmooth, yellowiſh, with black ſpots. On Larkſpur.

55. Oitrago. *Sallow Moth.* Body thick, yellow-brown. Firſt Wings angulated, yellow, with 3 or 4 oblique tranſverſe purpliſh lines, with intermediate red-brown ſpots. Second Wings whitiſh. Length 7 lines. Caterpillar brown, ſides yellow.

* *Geometræ. Antennæ feathered.*

56. Amataria. *Buff Argus Moth.* Firſt Wings angulated, buff, ſprinkled with brown, and a red-brown tranſverſe line in the middle. Second Wings paler, with a red-brown margin. Caterpillar green,

with yellow rings. On oaks. Length of the Moth half an inch.

57. Sambucaria. *Swallow-tail Moth.* Wings angulated, pale yellow, with 2 tranſverſe ſtraight lines on each. Second Wings, with 2 Tails and 2 black ſpots. Large ſize. Caterpillar brown. On brambles.

58. Lacertinaria. *Wild-Roſe Moth.* Wings angulated, brown-yellow, with 2 tranſverſe curved lines on each Wing, and a brown ſpot between thoſe of the 1ſt pair. Caterpillar ſmooth, brown, back angulated. On oaks, &c.

59. Syringaria. *Richmond Beauty.* Wings angulated, indented, orange clouded. Beneath darker, with a black ſpot in the middle of each Wing. Length 9 lines. Caterpillar ſmooth, with 10 feet, and a horn on the 8th ring.

60. Prunaria. *Orange Moth.* Wings orange, ſprinkled with brown, and a ſemilunar ſpot on the 1ſt pair. Female paler than the Male. Caterpillar brown yellow, with 2 ſpines before and behind. On thorns.

61. Betularia. *Spotted Elm Moth.* Wings white, ſpotted and waved with black-brown. Caterpillar pale green, ſmooth, with 2 black-brown ſpots near the Tail. Middle ſize. On elms, willows, &c.

62. Wauaria. *Gooſeberry Moth.* Wings orange-grey; on the anterior margin of the 1ſt pair

pair 4 tranſverſe irregular dark-brown ſpots. Caterpillar green and white, hairy. On gooſeberry-buſhes. *Wilks.* 42.

63. Papilionaria. *Green Broom Moth.* Wings green, with a tranſverſe white wave, and white margin. Length 7 lines.

** *Antennæ taper, like briſtles.*

64. Viridata. . . . . Wings angular, green, with a pale tranſverſe line, and yellowiſh margin. Small. On oaks.

65. Chærophillata. *Great Chimney Sweeper.* Black. Firſt Wings tipt with white, and erect. Caterpillar green. In meadows.

66. Groſſularia. *Magpye*, or *Currant-Moth.* Antennæ and Legs black. Body yellow, with black ſpots. Wings white, with many black patches, and a tranſverſe yellow wave on the 1ſt pair. Caterpillar white, with black ſpots on the back; belly yellow. On currant and gooſeberry-buſhes.

67. Cratægata. *Brimſtone Moth.* Antennæ, Trunk, and Legs deep yellow. Eyes black. Wings brimſtone, with 3 irregular brown ſpots on the anterior margin of the 1ſt pair. Caterpillar ſmooth, with a dorſal ſpine. On the white-thorn.

68. Urticata. . . . . Corſelet and Tail yellow. Abdomen grey. Wings grey, with black-blue ſpots, two rows of which form tranſverſe lines near the exterior

exterior margin. The baſe of the Wings ſometimes yellowiſh. Small. Caterpillar ſmooth, green. On nettles.

69. Brumata. . . . . Wings brown-grey, with faint black tranſverſe lines. Wings of the Female very ſhort, grey, with black ſpots. Caterpillar green, with a white line on the ſides. Very deſtructive to apple-trees.

70. Praſinana. *Green Moth, with ſilver lines.* Body green and white. Firſt Wings green, with 3 oblique white lines. Second Wings pale green. Margin orange. Caterpillar yellow and green. Anus orange. On aſh, oaks, &c.

71. Viridana. *Small Green Oak Moth.* Firſt Wings green, immaculate; 2d duſky. Caterpillar ſmooth, green.

72. Oporana. *Plumb-tree Moth.* Wings angular, red-brown, clouded and reticulated with black. Caterpillar ſmooth, green.

73. Roſtralis. . . . . Wings brown-grey: on the 1ſt pair 2 ſpots, and a dark line near the extream angle. Caterpillar, on nettles.

74. Verticalis. *Mother of Pearl Moth.* Wings yellowiſh white, with faint browniſh broken waves. Beneath yellowiſh. Length 8 lines. Caterpillar green and white. On nettles.

75. Evonymella. *Small Ermine Moth.* Firſt Wings ſilver-white, with 3 or 4 rows of

of ſmall black ſpots. Second Wings lead colour. Abdomen black above, white beneath. Length half an inch. Caterpillar yellowiſh white, with 10 black ſpots on each ſide. On fruit trees.

76. Culmella. *Small Paſture Moth.* Firſt Wings grey, with longitudinal white ſtriæ, a ſilver marginal fringe, and 7 black ſpots ranged tranſverſely. Wings circumvoluted. In meadows on graſs, its head downwards.

77. Salicella. *Province-roſe Moth.* Firſt Wings dark bluiſh grey, yellowiſh white in the middle, with black ſpots in the poſterior margin. Thorax creſted. Small ſize. Caterpillar, on roſe-leaves.

78. Tapetzella. . . . . Head white. Wings long, circumvoluted; 1ſt pair black half way from the Body, the other half white, with brown faint ſpots: 2d pair grey. Body black. Length near half an inch. Among woollen clothes.

79. Sarcitella. . . . . Wings bluiſh bright aſh-colour, with a black ſpot in the center of each. Length 2 lines. Frequent in houſes. Caterpillar, very deſtructive to woollen clothes.

80. Granella. . . . . Brown. On the 1ſt Wings ſeveral ſmall dark ſpots, and 2 yellow ones. Head yellowiſh white.

Eyes black. Length 4 lines. In houſes and granaries.

81. Pomonella. *Codling Moth.* Firſt Wings brown-grey, clouded. On the 2d a large red-gold ſpot near the poſterior angle. Length near half an inch. Caterpillar orange, ſpotted with black. On apple-trees.

82. Didactyla. *Brown Feathered Moth.* Wings extended, bifid, pointed, red-brown, with white long ſpots. Second Wings white, tripartite, ſpotted. Legs white, annulated.

83. Pentadactyla. *White Feathered Moth.* Eyes black. Body pale yellow. Wings very white, extended: 1ſt pair bifid; 2d tripartite. Caterpillar green.

84. Hexadactyla. *Many-feathered Moth.* Wings extended, grey, with brown tranſverſe waves: 1ſt Wings of 8 feathers; 2d of 4, which the inſect expands and contracts like a fan. Length 6 lines. On the Lonicera, &c.

IV. NEUROPTERA.

Wings 4, naked, tranſparent, reticulated with veins or nerves. Tail without ſting.

LIBELLULA. *Adder-bolts, or Dragon-flies.* Mouth with 2 long lateral jaws. Antennæ very ſhort. Tail of the Male forked. Wings extended.

1. 4-macu-

1. 4-maculata. . . . . Brown. Thorax covered with grey hair. Wings yellowiſh at the baſe, with 2 brown ſpots on the exterior margin. Length 1½ inch. I caught this inſect on board the Harwich packet, many leagues from land.

2. Flaviola. . . . . Eyes large, and near together. Thorax black-brown, hairy with a yellow ſpot on each ſide. Abdomen broad, flat, ſhort, yellow above, black beneath. Wings with a black ſpot near the end, and a large yellow-brown ſpot at the baſe. Length 1½ inch. Flies quick.

3. Depreſſa. . . . . Eyes brown. Head and Thorax greeniſh, with 2 yellow tranſverſe lines. A brown ſpot on the exterior margin of the Wings. Abdomen cylindrical, black above, yellow beneath, and covered with a bluiſh grey duſt. Length 1½ inch.

4. Vulgatiſſima. . . . . Brown. Front and ſides yellow. An oblong brown ſpot on the exterior margin of the Wings, the ſides of which ſpot are black. Length more than half an inch.

5. Ænea. . . . . Green-gold. Wings yellowiſh, with marginal brown ſpots. The male has 4 briſtles at the Tail. Length 1¾ inch.

6. Grandis. . . . . Head yellow. Eyes brown, contiguous and large. Thorax brown with

with 2 oblique yellow lines on each ſide. Abdomen red-brown, with white ſpots. Wings yellowiſh, with a brown marginal ſpot, and a brown protuberance at the baſe of each Wing. Length $2\frac{3}{4}$ inches.

7. Forcipata. . . . . Head yellow. Eyes large, brown. Thorax greeniſh brown, with 3 black oblique lines on each ſide. Abdomen brown, of 9 ringlets, with a yellow tranſverſe line in the middle, and 2 yellow ſpots on the ſide of each ringlet. Length $2\frac{1}{4}$ inches.

8. Virgo. . . . . Body Saxon-greeniſh blue. Eyes diſtant, remote. Wings of equal length, bluiſh, brown in the middle, yellowiſh at the baſe and apex, and without marginal ſpot. Length 2 inches.

9. Puella. . . . . Body blue, with 3 longitudinal brown lines on the Thorax, and a black ringlet near the extremity of the Abdomen; the 2 laſt brown. Wings whitiſh, finely reticulated with black veins, and a black marginal ſpot. Eyes diſtant, remote. Length $1\frac{1}{2}$ inch.

EPHEMERA. Antennæ very ſhort. Two protuberances before the Eyes. Wings erect; 2d pair ſmall. Two or three Tails like briſtles. Short lived.

1. Vulgata.

1. Vulgata. . . . . Brown. Wings, with brown veins, and 5 or 6 brown ſpots. Three Tails as long as the Body. Length 2 lines.

2. Veſpertina. . . . . Black. Exterior margin of the 1ſt Wings black, the reſt tranſparent. Second Wings white. Antennæ and Tails 3 times the length of the Body. Length 1 line.

3. Culiciformis. . . . . Brown. Wings tranſparent. Two whitiſh Tails. Length 2 lines.

4. Horaria. . . . . Brown. Wings diaphanous, exterior margin thicker and brown. Tails 2, white, with brown ſpots. Fore Legs long. Length 3 lines.

5. Striata. . . . . Thorax brown. Abdomen white. Wings browniſh, ſtriated. Tails 2, length of the Body. Length 2 lines.

PHRYGANEA. Palpi 4. Protuberances before the Eyes 3. Antennæ longer than the Thorax. Wings croſſing each other; 2d pair folded.

1. Bicaudata. . . . . Dark brown, with a yellow longitudinal line on the Head and Thorax. Antennæ long, filiform. Wings $\frac{1}{3}$ longer than the Body. Length 8 lines.

2. Nebuloſa.

2. Nebulosa. . . . . Brown. Wings grey. Tails 2, short. Length half an inch.

3. Striata. Red-brown. Eyes black. Wings clouded, lateral, and raised obliquely at the ends. Antennæ long. Length 1 inch.

4. Rhomboidica. . . . . Browniſh yellow. On the 1ſt Wings a large oblique white ſpot. Length 7 lines.

5. Flavilatera. . . . . Black. Wings brown; 1ſt pair dilated at the baſe. Antennæ ſhort. Length 7 lines.

6. Nigra. . . . . Antennæ twice as long as the Body. Wings greeniſh black.

7. Longicornis. . . . . Browniſh grey. Antennæ 3 times as long as the Body. Firſt Wings ſpotted with black. Legs whitiſh. Length 3 lines.

HEMEROBIUS. Mouth prominent. *Palpi* 4. Wings deflexed. Antennæ longer than the Thorax, taper, extended.

1. Pectinicornis. *Golden Eye.* Antennæ length of the Body. Yellowiſh green. Wings much longer than the Body, diaphanous, with green veins. Minute black dots on the Abdomen. On plants.

2. Chryſops. . . . . Like the laſt, except that the Antennæ are ſhorter, and the veins of the Wings punctured with brown. Length 3 lines. *Geoff.* 254. 2.

3. Sex-

3. Sexpunctatus. . . . . Body greenish brown. Antennæ longer than the Body. Wings much longer than the Body, obliquely erect, diaphanous, with 6 black spots near the ends. Length 1½ line.

4. Formicarium. . . . . Brown. Head large, with yellow spots, and large lateral Eyes. Neck long. Thorax divided, and spotted with yellow. Abdomen of 8 rings. Wings larger than the body, diaphanous, with black veins, and brown spots. Length 1 inch.

PANORPA. Beak horny, cylindrical. Palpi 2.

1. Communis. . . . . Body dark brown, sides yellow. Wings the length of the Body, diaphanous, reticulated, and spotted with brown. Tail of the male like that of the Scorpion. Length 7 lines. Skips. In meadows.

V. HYMENOPTERA.

Wings 4, generally membraneous. Tail of the Females armed with a sting.

CYNIPS. Antennæ elbowed in the middle. Second Wings shorter. Sting conic, inclosed between 2 valves, on the under side of the Abdomen. Ab-

domen compreſſed, acute beneath, and joined to the Thorax by a ſhort pedicle.

1. Glechomæ. . . . . Brown. Thorax hairy. In the tubercles on the leaves of ground ivy.

2. Quercus baccarum. . . . . Black. Baſe of the Antennæ and Legs yellow. In the ſmall tubercles on the under ſide of oak leaves.

3. Quercus folii. . . . . Black. Thorax ſtriated. Legs grey. In the large tutubercles on oak leaves.

4. Quercus petioli. . . . . Head black. Body brown, poliſhed. Extremity of the Abdomen hairy. In the tubercles on the petiolus of oak leaves.

5. Quercus gemmæ. . . . . Greeniſh black, a little bronzed. Antennæ and Legs orange. In the large imbricated galls on the extream buds of oak-trees.

TENTHREDO. Abdomen of equal thickneſs, and cloſely united to the Thorax. Sting ſerrated, between two valves. Second Wings ſhorteſt.

1. Femorata. . . . . Antennæ yellow, of 9 joints. Black, hairy. A yellow ſemilunar membrane on the 1ſt ring of the Abdomen. Wings diaphanous, the exterior border thick, brown. Length 1 inch.

2. Lutæa.

2. Lutæa. . . . . Antennæ clavated, yellow, the laſt joint black. Third, fourth, and fifth ring of the Abdomen brown, the reſt black. Legs black, feet yellow. Wings, with brown veins, and brown poſterior margin. On Willows, Alder, Birch.

3. Ruſtica. . . . . Black, except the upper lip, baſe of the Antennæ, 2 ſhort lines on the Thorax, the point of the Thorax and the margin of the 2d, 5th and 6th ſegment of the Abdomen, which are yellow. Wings brown. Legs yellowiſh. Length half an inch. On Willows.

4. Scrophulariæ. . . . . Black. Margins of the ſegments of the Abdomen yellow, except the 2d and 3d. Upper lip yellow. Antennæ red-brown. On the Thorax 2 yellow lines and 3 ſpots. Wings and Legs tawny. Very like a Waſp. Length half an inch. On Figwort.

5. Roſæ. . . . . Head, Antennæ, and Thorax black, with a yellow ſpot on each ſide of the latter. Abdomen orange. Wings tawny, with the exterior border black. Length 4 lines. On roſe-trees.

6. Cynoſbati. . . . . Black, with 3 yellow ſpots on the Thorax. Legs red-brown; hind legs white in the middle, black above and below. Length 2½ lines.

7. Capræ. . . . . Yellow. Crown and Corſelet black. Antennæ of 9 joints.

Exterior border of the Wings black, thick. Length 4 lines. On Willows.

SIREX. Two ſtrong Jaws. Palpi 2. Antennæ filiform, of more than 20 joints. Sting riged, ſerrated. Abdomen united to the Thorax. Wings narrow, 2d pair ſhorteſt.

1. Gigas. . . . . Antennæ half the length of the Body, of 23 joints. Head black, with a yellow ſpot behind each eye. Thorax black, hairy. Abdomen of 9 ſegments, black and yellow. Sting lodged in a groove under the Belly. Length 13 lines.

ICHNEUMON. Jaws, without tongue. Antennæ of more than 30 joints, long, filiform, vibrating. Sting within a bivalve ſheath.

1. Luctatorius. . . . . Black. Upper lip, baſe of the Antennæ, point of the Corſelet, 2d and 3d ſegment of the Abdomen yellow. Length near half an inch.

2. Perſvaſorius. . . . . Black. Upper lip white. Thorax with 3 white lines on each ſide. Target with 2 white ſpots. Abdomen cylindrical, 1ſt ſegment white, 2d partly white, and 4 white ſpots on the reſt. Legs brown.

3. Comitator. . . . . Black. Middle of the Antennæ white. Length half an inch. In Waſps neſts.

4. Peregrinator.

4. Peregrinator. ..... Black. Antennæ white in the middle. Four firſt ſegments of the Abdomen brown-yellow, the laſt white. Legs tawny. Wings browniſh. Length $3\frac{1}{2}$ lines.

5. Incubitor. ..... Head and Thorax black. Antennæ brown, white in the middle. Legs and Abdomen tawny, black at the extremity. Length 3 lines.

6. Manifeſtator. ..... Black. Antennæ taper. Legs tawny. Sting twice as long as the Body. Length 1 inch. In woods.

7. Inculcator. ..... Black. Abdomen and Legs tawny. Pedicle between the Thorax and Abdomen long and ſmall. A marginal ſpot on the Wings. Abdomen compreſſed and large towards the end. Length 2 lines.

8. Pugillator. ..... Black. Antennæ length of the Body. Second, third, and fourth ſegments of the Abdomen yellow. Legs yellow. Length 6 lines.

9. Ruſpator. ..... Black. Legs tawny, hind thighs thick, with a ſpine on the interior ſide. Length $3\frac{1}{2}$ lines.

10. Jaculator. ..... Black, ſlender, long. A white ringlet near the origin of the Legs. Hind legs longer and thicker than the reſt. Abdomen curved. Sting longer than the Body.

11. Luteus. ..... Tawny. Antennæ long, taper. Abdomen curved, compreſſed; Pedicle long, ſlender. Sting ſhort. A marginal brown ſpot on the Wings. Length 1 inch. *Geoff.* 330.

12. Ramidulus. ..... Very like the laſt. Thorax beneath, and the extremity of the Abdomen black. Length 8 lines.

13. Bedeguaris. ..... Green-gold. Antennæ of 11 joints, elbowed, filiform. Legs pale. Sting longer than the Body. Length 1½ line.

14 Puparum. ..... Blue, poliſhed. Abdomen gold. Legs pale. Otherwiſe like the laſt. Length 2 lines. In the chryſalis of Butterflies.

15. Aphidum. ..... Black. Legs yellow. Antennæ as long as the Body. Length 1 line. Breeds in the Body of Aphides, or Lice of trees and plants.

16. Globatus. ..... Black. Legs black and orange. Antennæ length of the Body. A ſmall marginal ſpeck on the Wings. Length 2 lines. Breeds in the white ſilky balls, about 1 inch long, which are found frequently on different plants in meadows.

17. Glomeratus. ..... Like the laſt, except that the Antennæ are not ſo long, and the Legs are yellow. Breeds in the Caterpillars of the Cabbage Butterfly.

18. Pectinicornis. ..... Green-brown-orange. Antennæ branched, yellowiſh. Legs

Legs white. Length 2½ lines. In the chryſalis of Butterflies.

SPHEX. Jaws, without Tongue. Antennæ of 10 joints. Wings incumbent, not folded. Sting riged.

1. Viatica. . . . . Black. Antennæ ſhort, thick. Three firſt ſegments of the Abdomen red-brown. Pedicle ſhort. Length half an inch. *Geoff.* 354. n. 74.

2. Cribraria. . . . . Black, with yellow ringlets on the Abdomen. Antennæ ſhort, and turned backwards. Fore legs broad, with an appendix like a ſhield.

CHRYSIS. Thorax joined to the Abdomen by a ſhort pedicle. Sting ſimple. Wings not folded. Antennæ filiform, of 1 long and 11 ſhort joints.

1. Ignita. . . . . Blue-green-gold. Poſterior part of the Abdomen poliſhed copper, with 4 ſpines on the laſt ſegment. Length 4 lines. In walls.

VESPA. Jaws, without Trunk. Firſt Wings folded. Sting concealed. Body ſmooth.

1. Crabro. *Hornet.* Antennæ tawny. Corſelet black in the center, edges brown. Segments of the Abdomen black on the anterior part, yellow on the poſterior, with 2 black ſpots on each. Length 1 inch. Builds in hollow trees.

2. Vulgaris. *Common Waſp.* Corſelet black, with 6 yellow ſpots. *Male:* ſegments of the Abdomen 7, yellow, with a black triangle on each. Head yellow. Antennæ long. *Female:* upper lip yellow. Antennæ ſhort. Segments 6, with 2 lateral black ſpots on each; larger than the Male.

3. Coarctata. *Small Waſp.* Antennæ black, yellowiſh at the baſe. Head black, with a yellow ſpot between the Antennæ, and another at the baſe of the upper lip. Corſelet black with 2 yellow ſpots. Each ſegment of the Abdomen bordered with yellow; the 1ſt infundibuliform, 2d campanulate, and larger than the reſt. Length half an inch.

APIS. Jaws, with a Trunk bent downwards. Antennæ elbowed in the middle, 1ſt joint longeſt. Wings plain. Body hairy. Abdomen connected by a pedicle.

1. Centuncularis. . . . . Black. Body long, narrow. Head, Thorax, and Legs covered with greyiſh hair. Abdomen above ſmooth, beneath covered with tawny hair. Builds in old trees. Length 2½ lines.

2. Rufa. *Small Field Bee.* Front white. Abdomen ſhort, covered above with tawny hair; Thorax with grey.

3. Mellifica.

3. Mellifica. *Common Hive Bee.* Needs no deſcription.

4. Manicata. . . . . Black. Fore legs very hairy. Yellow ſpots on each ſide of the Abdomen, and 5 crotchets at the extremity. Length 7 lines. Very like a Waſp, but hairy. On flowers.

5. Conica. . . . . Thorax black, yellowiſh at the roots of the Wings. Abdomen very acute; margins of the ſegments light yellow. Builds in the ground.

6. Terreſtris. *Humble Bee.* Black, very hairy, with a yellow belt on the Thorax. Anus white. Builds deep in the ground.

7. Subterranea. *Great Humble Bee.* Black, very hairy. Trunk long and branched. Anus red-brown.

FORMICA. An erect ſquamula or ſcale, between the Thorax and Abdomen. Females and Neutrals have a Sting concealed. Males and Females have Wings; Neutrals none.

1. Herculeana. *Horſe Ant.* Abdomen oval. Thighs red-brown. Much larger than the common Ant.

2. Rufa. . . . . Front and Thorax yellowiſh; the reſt red-brown. Length 3 lines, In gardens. *Geoff.* 428. n. 4.

3. Fuſca

3. Fuſca. *Common Ant.* Brown, poliſhed. Wings white, larger than the Body. Length $2\frac{1}{2}$ lines. *Geoff.* 428. n. 5.

4. Nigra. . . . . Black. Wings browniſh on the upper part, and larger than the Body. Length $1\frac{1}{2}$ line. *Geoff.* 429. n. 6.

5. Rubra. *Little Red Ant.* Clouded, with a black ſpot under the Abdomen. Eyes black. Very ſmall.

VI. DIPTERA.

Wings 2.

OESTRUS. No Mouth, but 3 punctures, without Trunk or Beak. Antennæ taper, proceeding from a lenticular joint.

1. Bovis. *Breeze*, or *Gad Fly.* Thorax yellow, with a black tranſverſe line between the Wings. Abdomen tawny, with fine black tranſverſe lines; laſt ſegment black. Wings white, with a brown tranſverſe line, and 3 brown ſpots. Size of the large blue Fly. Depoſits its eggs under the ſkin on the backs of Oxen.

2. Hæmoridalis. . . . . Body long, black, covered with tawny hair. Middle of the Thorax leſs hairy. Wings immaculate. Antennæ very ſhort. Length half an inch.

inch. Depoſits its eggs in the *rectum* of horſes,

3. Ovis. *Grey Fly.* Spotted with black. Front pale yellow. Legs browniſh. Wings with ſhort black veins. Length half an inch. Breeds in the frontal *ſinus* of Sheep.

TIPULA. Head long. Palpi 4, curved. Trunk very ſhort.

1. Rivoſa. . . . . Brown-grey. Eyes black. Antennæ feathered. Wings larger than the Body, white in the middle, with 3 brown ſpots near each margin. Tail of the Female bifid. Length 1 inch.

2. Crocata. . . . . Black ſpotted with yellow. Legs tawny, with black feet, and a black ring round the poſterior thighs. Wings tawny, with a marginal brown ſpot. Length 7 lines. In meadows.

3. Oleracea. *Long-Legs.* Brown-aſh colour. Antennæ ſimple. Wings brown at the exterior margin, and in the Male longer than the Body. Length near an inch.

4. Hortorum. . . . . Like the laſt, but much leſs. Wings faintly ſpotted with white, and ſpread with thick black veins.

5. Contaminata. . . . . Black. Legs livid yellow, with black joints. Two yellow ſpots on the 2d, 3d, 4th, and 5th ſegments of the Abdomen. Five or ſix dark

dark ſpots on the exterior margin of each Wing. Length half an inch.

6. Lunata. ..... Aſh-colour, with a whitiſh line on each ſide of the Abdomen, and a white ſemilunar ſpot on the exterior margin of each Wing. Length 8 lines. In meadows.

7. Cornicina. ..... Yellow. Antennæ, Eyes and Palpi black. Three oblique black lines on the Corſelet. Legs very long. Length 6 lines. In meadows. *Raj.* 73. 7.

8. Plumoſa. *Sea Tipula.* Brown. Thorax greeniſh. Eyes black. Fore legs longeſt. Wings ſhorter than the Abdomen. Length 3 lines. Reſembles a Gnat.

9. Littoralis. ..... Brown. Abdomen green, 3 laſt ſegments brown. Wings diaphanous. Fore legs long. Length 2 lines. On trees.

10. Motitatrix. ..... Pale green, or fleſh-colour, with black ſpots. Three longitudinal black lines on the Corſelet. Legs black, white in the middle. Fore legs long. Length 1 line.

11. Monilis. ..... Black. Legs white, with 9 black rings. Wings white, with grey ſpots, and a marginal black one. Length 2 lines. In meadows, and on windows.

12. Febrilis. ..... Black. Wings white, exterior border black. Antennæ knotted,

short. Wings croſs each other. Length 4 lines.

13. Hortulana. . . . . Antennæ knotted, ſhort, black. Corſelet red, ſmooth. Abdomen yellowiſh. Wings diaphanous, browniſh, exterior border black. Head very ſmall. Male black, leſs.

14. Phalænoides. . . . . Dark grey. Wings twice as long as the Body, fringed. Antennæ of 11 beads, perfoliated. Length 1 line. Scarce.

MUSCA. A ſoft flexible Trunk, with lateral Lips at the end. No Palpi.

1. Chamæleon. . . . . Brown. Antennæ taper, broken. Eyes large. Abdomen nearly circular, with 3 yellow triangular ſpots on each ſide, and one at the extremity. Legs yellow. Thighs brown. Length 6 lines.

2. Hydroleon. . . . . Antennæ ſhort, black. Eyes green, with a tranſverſe violet line. Thorax brown. Abdomen green, with a black longitudinal line in the middle. Wings very tranſparent. Legs yellowiſh. Length $3\frac{1}{2}$ lines.

3. Morio. . . . . Black, hairy, with white ſpots on each ſide of the Abdomen. Wings much larger than the Body, interior margin white. Length 3—6 lines. In gardens.

4. Nemorum. . . . . Head grey. Eyes brown. Thorax covered with grey hair.

hair. Abdomen, of 4 ſegments, above black, with 2 large yellow ſpots on each ſide, and 3 white tranſverſe lines. Legs brown. Wings tranſparent with a black marginal ſpot. Length 4½ lines.

5. Tenax. . . . . Very like a Bee. Eyes brown. Front white. Thorax brown, hairy. Abdomen of 4 ſegments, with a large yellow ſpot on each ſide. Middle of the Wings tawny. Legs brown, Feet white. Length half an inch.

6. Pyraſtri. . . . . Head yellow. Eyes large, brown. Corſelet dark green, with a few brown hairs. Abdomen above black, with 6 white ſpots. Legs blackiſh, with yellow joints. In gardens.

7. Menthaſtri. . . . . Front yellow. Eyes brown. Corſelet greeniſh black, with a yellow line on each ſide. Abdomen of 5 ſegments with 5 tranſverſe yellow lines. Length 4 lines. On flowers.

8. Pipiens. . . . . Black, ſmooth. Long, narrow. Front and ſides of the Thorax yellow. Abdomen of 4 ſegments. with 2 yellow ſpots on each ſide. Two hind Legs longer and ſtronger, black with 2 yellow ſpots, and a yellow ring on each thigh. On mint, &c. Length 3½ lines.

9 Inanis. . . . . Antennæ, proceeding from the Trunk, of 5 globules, and a filiform terminal joint. Thorax black,

 poliſhed.

poliſhed. Abdomen above white, with 2 black belts. Beneath black. Length 2 lines. On flowers.

10. Pellucens. . . . . Antennæ feathered. Trunk lodged within the Beak. Eyes red-brown. Front yellow. Corſelet black. Abdomen, anterior half white, poſterior black. Wings tranſparent, with a tranſverſe black line. Length half an inch. On roſe-trees.

11. Cæſar. . . . . Green-gold. Legs black. Eyes reddiſh. Length 3 lines. In woods and gardens.

12. Cadaverina. . . . . Eyes reddiſh. Head and Thorax blue. Abdomen green-gold. Length 2 lines.

13. Vomitoria. *Blue Fleſh Fly.* Eyes brown. Plumes of the Antennæ branched. Thorax black. Abdomen dark blue, large. Legs black. Length near half an inch. *Raj.* 271.

14. Carnaria. *Common Fleſh Fly.* Black, with 4 longitudinal grey lines on the Corſelet. Abdomen of 5 ſegments, chequered, with black and grey. Anus reddiſh. Legs black. Length 4 lines.

15. Domeſtica. *Common Houſe Fly.* Black, with 5 longitudinal grey lines on the Corſelet. Abdomen of 4 ſegments, chequered. Length 3 lines.

* *Antennæ*

* *Antennæ with a lateral hair.*

16. Cellaris. . . . . Yellow-brown. Abdomen of 6 ſegments. Wings large, with 3 longitudinal veins. Length $1\frac{1}{4}$ inch. Frequently found dead in wine and vinegar.

17. Putris. . . . . Black, ſmooth. Wings whitiſh. Eyes brown. Size of a Gnat. Breeds in cheeſe and dung.

18. Stercoraria. . . . . Front yellowiſh. Eyes reddiſh. Baſe and exterior border of the Wings yellowiſh, with a brown ſpot and tranſverſe line near the middle. Male grey, covered with tawny down. Length 3 lines. On dung.

19. Vibrans. . . . . Black, cylindrical. Head red. Abdomen obtuſe. Wings white, with a black ſpot near the extremity. Legs of the Female yellow. Length $2\frac{1}{2}$ lines. Wings conſtantly vibrating. On trees.

20. Flava. . . . . Yellow. Eyes black. Wings white, with obſcure yellow veins. Length 1 line. On flowers.

21. Solſtitialis. . . . . Head yellow. Eyes brown. Thorax grey. Abdomen black. Legs tawny. Wings whitiſh, with 3 brown lines, and a ſmall notch in the exterior margin. Length 2 lines. On thiſtles.

TABANUS.

TABANUS. Antennæ conic, of 4 ſegments. Trunk fleſhy, terminated by 2 lips. Palpi, one on each ſide of the Trunk.

1. Bovinus. *Great Horſe Fly.* Head and Thorax grey. Eyes dark brown. Abdomen yellowiſh, with a triangular white ſpot in the middle of each ſegment. Legs yellow. Wings duſky with brown veins. Length 1 inch.

2. Pluvialis. . . . . Brown-grey. Eyes green, with brown rays. Corſelet brown, with 7 longitudinal grey lines. Wings dotted with white, and a marginal black ſpot. Legs alternately brown and white. Length 4 lines. In meadows.

3. Cæcutiens. . . . . Head brown. Eyes green and brown, with black ſpots. Corſelet brown, with grey lines. Abdomen above yellow, with triangular brown ſpots. Legs yellow. Wings white, with black and brown ſpots. Length $4\frac{1}{2}$ lines.

CULEX. Antennæ feathered. Trunk, a long ſlender ſyphon.

1. Pipiens. *Common Gnat.* Grey. Abdomen of 8 ſegments.

2. Bifurcatus. . . . . Brown-grey. Beak forked. Twice as big as the laſt. In watery places.

3. Pulicaris. . . . . Brown. Wings white, with 3 brown ſpots. Length $\frac{3}{4}$ line. In gardens in the Spring.

CONOPS. Trunk long, jointed.

1. Calcitrans. . . . . Differs from the Common Fly, in having a hard ſharp Trunk, with which it pricks our legs in Autumn.

2. Macrocephala. . . . . Black and tawny variegated, ſomewhat like a Waſp. Antennæ clavated, but pointed. Wings brown, clouded. Length half an inch. In meadows.

ASILUS. Trunk horny, long, ſtraight, bivalved.

1. Crabroniformis. *Hornet Fly.* Trunk and Eyes black. Corſelet convex. Three firſt ſegments of the Abdomen black, the other 4 yellow, hairy, ſharp, and brown at the extremity. Length 1 inch. In wet meadows.

2. Forcipatus. . . . . Grey, hairy. Abdomen long, pointed. Sides yellowiſh. Length 6 lines. In gardens, &c.

3. Tipuloides. . . . . Trunk pale, long, curved downwards. Corſelet aſh-colour, with 3 longitudinal black lines. Wings of the Male tawny; of the Female, white, tranſparent. Legs long. Length 4 lines.

4. Morio. . . . . Black, ſmooth. Legs tawny. Length 6½ lines. In wet woods.

BUMBYLIUS. Trunk taper, very long, ſharp, between two horizontal valves.

1. Major. *Humble-Bee Fly.* Body ſhort, thick, covered with thick grey down. Wings large, black at the baſe. Antennæ black, bent in the middle. Legs long, ſlender, black. Length 4 or 5 lines. Sucks flowers, without reſting on them.

2. Medius. . . . . Body yellowiſh, white at the extremity. Wings, with brown ſpots. Hovers in the air like a Hawk, and darts with great celerity.

3. Minor. . . . . Wings clouded, without ſpots. In Cain-wood.

HIPPOBOSCA. Trunk bivalved, cylindrical, obtuſe. Antennæ like a ſingle hair. Feet with claws.

1. Equina. . . . . Broad, flat, ſcaly. Head yellow. Eyes brown. Thorax and Abdomen yellowiſh, with brown waves. Wings croſs each other, and are much larger than the Body. Length 2½ lines. Faſtens on Dogs and Cattle.

2. Hirundinis. . . . . Head yellow. Thorax darker. Abdomen duſky, broad, flat. Wings narrow, ſhort. Legs long, with 6 claws. In Swallows neſts.

VII. APTERA.

No Wings.

LEPISMA. Legs 6, broad and ſcaly at their origin. Palpi 2, moveable. Antennæ filiform. Tails 3. Body ſcaly.

1. Saccharina. ..... Body long, of 9 or 10 ſegments, diminiſhing from the Head to the Tail. Silvery lead colour. Somewhat like a fiſh. Length 4 lines. In the joints of faſh windows that are wet and ſeldom opened.

PODURA. Legs 6. Eyes 2, compoſed of 8 ſmall ones. Tail forked, elaſtic, inflexed. Antennæ long, taper.

1. Viridis. ..... Round, light green. Head yellowiſh. Eyes black. Antennæ elbowed in the middle. Thorax very ſmall. An angle on each ſide of the Abdomen. Length $\frac{1}{4}$ line. On plants in April.

2. Plumbea. ..... Poliſhed lead-colour. Tail almoſt as long as the Body. Length 1 line. On trees, ſolitary.

3. Villoſa. ..... Yellow-brown, ſtreaked and ſpotted with black. Antennæ of 4 joints. Head and Thorax hairy. Length 2 lines. On ſtones.

4. Aquatica.

4. Aquatica. . . . . Black. Antennæ almoſt as long as the Body. Length half a line. Numerous on the leaves of Aquatic plants.

TERMES. Legs 6. Eyes 2. Antennæ taper. Mouth with 2 Jaws.

1. Pulſatorium. . . . . Antennæ length of the Body, ſlender. Eyes yellowiſh. On each ſegment of the Abdomen, a reddiſh ſpot on each ſide. Leſs than the common Louſe. Generally thought to be the Death-watch, but Geoffroy is poſitive of the contrary.

PEDICULUS. Legs 6. Eyes 2. Mouth producing a ſting. Antennæ length of the Thorax. Abdomen depreſſed, rounded, ſimple.

1. Humanus. *Common Louſe.*

2. Pubis. *Crab Louſe.* Brown. Broad and ſhort.

3. Bovis. . . . . White, with 8 tranſverſe tawny-red lines above, and 5 beneath.

4. Vituli. . . . . Larger than the laſt. Legs ſhort, thick, grey. Abdomen lead-colour, broad, pointed.

5. Corvi. . . . . Grey. Head ſmall, black. Antennæ turned backwards. Eight black lines on each ſide the Abdomen. Length 1 line.

6. Gallinæ. . . . . Head white, rounded before. Thorax large, angular. Abdomen white, with a black border.

7. Columbæ. . . . . ſlender, whitiſh; ſides red-brown. Length 1 line.

PULEX. Legs 6. Eyes 2. Antennæ filiform. Trunk taper, inflexed, concealing a ſting. Abdomen compreſſed.

1. Irritans. *Common Flea.*

ACARUS. Legs 8. Eyes 2, lateral. Tentaculæ 2, jointed.

1. Reduvius. *Sheep Louſe*, or *Tick*. Flat, oval, with a round ſpot on the back. Frequently found alive in wool, a long time after it is ſhorn.

2. Ricinus. *Dog Tick*. Oval. Trunk long. Livid. Head and Thorax ſmall. On the anterior part of the Abdomen an oval, brown, gloſſy, raiſed ſpot. Length $1\frac{1}{2}$ line.

3. Paſſerinus. . . . . Oval. Brown. Legs pale. Length 1 line. Very like the laſt. On many ſpecies of ſmall birds.

4. Telarius. . . . . Tawny. A brown ſpot on each ſide of the Abdomen. According to Geoffroy, this inſect ſpins a web on the bark of trees, generally on the north ſide, from top to bottom of the trunk; which web being diſperſed by the wind, covers the fields with thoſe

those innumerable threads which some Naturalists have mistaken for condensed vapour.

5. Aquaticus. . . . . Scarlet. Oval. Length $1\frac{1}{3}$ line. On stagnant water. Swims quick.

6. Holosericeus. *Scarlet Spider.* Like the last. On the ground, and on plants.

7. Coleoptratorum. *Beetle Tick.* Tawny. Anus whitish. Length $\frac{1}{4}$ line. I have found 2 or 300 on the Belly of one Beetle.

8. Longicornis. . . . . Head sharp. Abdomen rounded. Antennæ like Crab's-claws. Abdomen deep red. Legs paler. Length $\frac{1}{3}$ line. Under stones, &c.

PHALANGIUM. Legs 8. Eyes 2. Abdomen rounded.

1. Opilio. *Long-legged Spider.* Antennæ angular. Palpi 2, long, like Antennæ. Legs very long. Eyes on the top of the Head or Thorax. Head and Thorax both in one. Abdomen, above brown, beneath white.

2. Cancroides. *Scorpion Tick.* Antennæ cheliform. Thorax brown. Abdomen transversely striated. On garden pots, and sometimes in houses.

ARANEA. *Spiders.* Legs 8. Eyes 8.

1. Diadema. . . . . Abdomen gibbous, red-

brown, with white ſpots in the form of a croſs.

2. Cucurbitina. . . . . Abdomen gibbous, green-yellow, with black ſpots. On fruit trees. *Raj.* 20. 5.

3. Domeſtica. . . . . Abdomen pale brown, with 5 black ſpots. Somewhat hairy.

4. Labyrinthica. . . . . Thorax grey, with 3 longitudinal lines. Abdomen brown, with a longitudinal pinnated line. Tail forked. Large. In fields.

5. Redimita. . . . . Abdomen oval, pale yellow, with a crimſon oval crown or ring on the Back. Legs long, white, tranſparent. In gardens.

6. Montana. . . . . Abdomen with grey ſpots; ſides white. Thorax and Legs pale. Fore feet long, extended.

7. Extenſa. . . . . Abdomen long, green-ſilver. Legs livid, long, extended.

8. Holoſericea. . . . . Brown-livid, hairy. Abdomen ovato-oblong, with 2 truncated appendices, and 2 yellow tubercles beneath.

9. Senoculata. . . . . Eyes only 6. Yellowiſh, downy. Abdomen ſub-cylindrical, with quadrangular black ſpots on the anterior part, and yellow lines on the ſides. Large. On walls, &c.

10. Scenica. . . . . Black, covered with ſhort ſilvery hair. Abdomen ſub-cylindrical, with 3 oblique white lines on each

each ſide. Legs ſhort, hairy, black and white. Skips. On old walls and windows. Weaves no web.

11. Aquatica. . . . . Pale brown. Abdomen oval. Jaws black, large, ſtrong. Length 5 lines. In lakes. Lives and hunts at the bottom of the water, devouring its food within a globule of air formed by itſelf. *Vide Geoffroy*, 645. 7.

12. Viatica. . . . . Thorax black-brown. Abdomen large, yellow, with 2 brown ſpots. Four fore legs long, black and yellow; 4 hind legs ſhort. Reſembles a Crab. Moves ſlow. Length 2½ lines.

CANCER. Legs 10; firſt pair claws, or pincers. Tail foliated.

1. Pagurus. *Common Crab.* Tail ſhort. Ends of the claws black.

2. Araneus. *Sea Spider.* Tail ſhort. Thorax hairy, tuberculated, oval. Beak bifid. Claws ſlender. *Mer. Pin.* 192.

3. Bernhardus. *Bernard the Hermit.* Tail long, ſoft. Right claw largeſt. Length 2½ inches. Lodges in the deſerted habitation of Welks and other ſhell-fiſh. *Dale Harw.* 436. *Mer. Pin.* 192.

4. Gammarus. *Lobſter.*

5. Aſtacus. *Crayfiſh.*

6. Squilla. *Shrimp.*

7. Pulex

7. Pulex. *Sea Flea.* Yellow. Eyes black. Antennæ 4. Body of 12 ſegments. Legs 14. Length 7 lines.

8. Salinus. . . . . Body oblong, larger than a Louſe. Eyes diſtant, lateral, pedunculated. Antennæ taper, ſhorter than the Body. Tail filiform, the length of the Body. Legs 10 pair. In the Limington ſalt water.

MONOCULUS. Body covered with a cruſt, or ſhell. Feet made for ſwimming.

1. Apus. . . . . Greeniſh. Eyes 2, on the crown, contiguous. Body covered with 2 ſhells, or ſcales. Tail ſcaly, with 2 long hard briſtles. Length 18 lines. In fiſh ponds and ditches.

2. Pulex. . . . . Greeniſh red. One Eye in the middle of the forehead. Snout pointed, and bent downwards. Antennæ forked, ſubdivided. Body compreſſed and covered with a firm ſhell. Tail bifid, ſubdivided. Very minute. Frequent and numerous in ſtagnant water.

3. Quadricornis. . . . . Grey-brown. One Eye. Antennæ 4. Body diminiſhes towards the Tail, which is long and bifid, with 3 or 4 ſtrong hairs on each ſide. A bag of eggs on each ſide of the Tail. Length half a line.

4. Con-

4. Conchaceus. . . . . Incloſed in a bivalve aſh-coloured Shell, from the aperture of which it puts forth a number of capillary Antennæ, which it retracts when taken out of the water. Length 1½ line. In ponds and ditches.

ONISCUS. Legs 14. Antennæ taper. Body oval.

1. Aſilus. *Sea Louſe.* Whitiſh. Abdomen covered with 2 Shells. Tail ſemioval

2. Entomon. *Sea Wood-Louſe.* White. Eyes black. Convex above, beneath flat, margin acute. Antennæ 4. Four hind pair of legs largeſt, hairy. Body of 7 ſegments. Length 1¼ line. On the coaſt.

3. Aquaticus. . . . . Aſh-colour, Antennæ taper, of 3 joints. Body of 7 ſegments. Tail roundiſh, with 2 bifid appendices. Hind legs longeſt. Length 2 lines. In clear ſprings.

4. Aſellus. *Millepes*, or *Wood-Louſe.* Oval. Tail obtuſe, with 2 undivided briſtles. Various as to colour. Length 5 lines.

5. Armadillo. . . . . Black, oval, broad, poliſhed. Body of 10 ſegments, the edges of which are white. Tail obtuſe, without appendices. On being touched forms itſelf into a perl. Under ſtones.

SCOLO-

SCOLOPENDRA. Feet not leſs than 24. Antennæ taper. Palpi 2, jointed. Body depreſſed.

1. Lagura. . . . . Feet 24. Body oval, brown. Head black. On each ſide 9 tufts of hair. Tail a white pencil. Length $1\frac{1}{4}$ line. Under the bark of old trees.

2. Forficata. . . . . Feet 30. Segments 9. Tawny, ſmooth. Antennæ of 42 joints. Length 1 inch. Runs ſwift. Under ſtones.

3. Electrica. . . . . Feet 140. Very flat. Tawny, with a black longitudinal line on the Back. Segments 70. Joints of the Antennæ 17. Shines in the dark.

JULUS. Feet, on each ſide double the number of the ſegments of the Body. Antennæ beaded. Palpi 2, jointed. Body ſemicylindrical.

1. Terreſtris. . . . . Feet 200. Black, poliſhed. Length 5 lines. Under ſtones. *Geoff.* 679.

2. Sabuloſus. . . . . Feet 240. Aſh-colour.

CLASS VI.

VERMES.

No distinct Head, no Ears, no Nose; in general, no Eyes, no Legs.

I. INTESTINA.

Naked, simple, without Limbs.

GORDIUS. Filiform, equal, smooth.

1. Aquaticus. . . . . Like a horse-hair. Extremities black. In water and in clay.

2. Lacustris. . . . . Plano-spiral, convoluted, small at each end. In the liver of the Pike.

ASCARIS. Cylindrical, filiform, small at the ends.

1. Vermicularis. . . . . Pale red. Mouth transverse. Tail much smaller than the Head. Length half an inch. At the bottom of lakes, and in the intestines of children and horses.

2. Lum-

2. Lumbricoides. . . . . Tail ſomewhat angular. Length of the Earth-Worm. In human inteſtines.

LUMBRICUS. Cylindrical, annulated, rough. A broad fleſhy belt. Lateral pores.

1. Terreſtris. *Earth* or *Dew Worm.* Segments 100; 26 to 30 form the belt. Two ſpines on each ſide of each ſegment, except the belt, all turned backward. Three pores on each ſide of the belt, 2 on the 12th, and 2 on the 14th ſegment. In the ground, and in the human inteſtines.

2. Marinus. *Sea Worm.* From the middle forward are 14 or 15 ſegments, each compoſed of 4 or 5 ſmall ones. On each ſide of theſe larger ſegments are 2 tubercles, with a ſmall briſtle in the center of each. Poſterior half ſmooth, with irregular ringlets, and minute punctures.

FASCIOLA. Flat, with a terminal and ventral pore.

1. Hepatica *Gourd Worm.* Oval, ſharp before. A whitiſh longitudinal line on the Back, with an oblong ſpot in the middle. Reſembles the ſeed of the common Gourd. In ditches, rivulets, and in the liver of ſheep.

2. In-

2. Inteſtinalis. . . . . Long, narrow, furrowed longitudinally, not jointed. In the inteſtines of fiſhes.

3. Barbata. . . . . White, oblong, ſize of a Cucumber-ſeed. Mouth with tranſverſe papillæ. In the inteſtines of the *Sepia loligo*.

HIRUDO. Subcylindrical, truncated at each end.

1. Medicinalis. *Common Leech.* Smooth. Depreſſed, blackiſh, with 6 yellow lines on the back. In ſhallow waters.

2. Sanguiſuga. *Horſe Leech.* Brown, depreſſed; lateral margin yellow. In freſh water.

3. Geometra. . . . . Cylindrical. Black-brown. Extremities dilated. Length half an inch. In freſh water.

4. Muricata. *Sea Leech.* Covered with ſmall tubercles. In the ſea. *Dale Harw.* 393.

MYXINE. Cylindrical, with a ridge beneath. Mouth terminal. Jaws pinnated, with 1 tooth in the upper, and ſeveral in the under Jaw. No Eyes.

1. Glutinoſa. . . . . Back black-green. Sides yellowiſh. Belly white. Size of the Dew Worm, and annulated. In the Sea.

II. MOL-

II. MOLLUSEA.

Simple, naked, without Shell, but not entirely without Limbs. . . . . .

LIMAX. Oblong. A common aperture on the right ſide. Tentacula 4, above the Mouth.

1. Ater. *Black Snail.* Back furrowed. Belly grey. Length 3 inches. In moiſt ſhady places.

2. Rufus. *Red Snail.* Back red-brown. Belly yellow. At the foot of mountains.

3. Maximus. *Large Grey Snail.* Deeply furrowed, ſtriated, and ſpotted with brown. Largeſt of this genus. In thick woods, &c.

4. Agreſtis. *Small Grey Snail.* Immaculate. Length half an inch. On Cabbages, &c.

5. Flavus. *Amber Snail.* With white ſpots. Length $1\frac{1}{2}$ inch. On plants.

APHRODITA. Body oval, with many Legs. Mouth terminal, cylindrical, retractile, with 2 taper tentacula.

1. Aculeata. *Sea Mouſe.* Covered with hair, mixt with ſharp prickles; that on the ſides, blue-green-gold. Legs 72, with a fin to each foot. Length 4 inches. Breadth $1\frac{1}{2}$. *Dale Harw.* 394. *Phil. Tranſ.*

Tranſ. N°. 225. p. 405. Found at Dublin in the ſtomach of a Cod.

NEREIS. Body long, with lateral pencilled Tentacula. Mouth terminal, unguiculated.

1. Noctiluca. . . . . Segments 23. Scarce viſible to the naked eye. Shines by night in the ſea, ſo as to make the water ſeem on fire.

2. Acuſtris. . . . . Size of a ſmall Briſtle, pellucid, as if jointed, with a Foot on each ſide of each joint. In clayey water.

LERNÆA. Body oblong, cylindrical; Tentacula like arms or branches, with which it fixes to other animals.

1. Cyprinacea. . . . . Body iſſues from a ſheath. Tentacula 4, 2 of which are lunated. Length half an inch. In fiſh ponds, adheres to the ſides of Carp.

2. Salmonea. . . . . Body obovate. Thorax obcordate. Tentacula 2, filiform, as long as the Body. Ovaria at the end of the Abdomen, granulous, and as large as the whole Body. Adheres to the gills of Salmon.

3. Aſellina . . . . . Body lunated. Thorax cordate. Tail double, cylindrical. In the gills of Cod, &c.

SEPIA. Body fleſhy, like a vagina or ſheath, receives the Neck or Breaſt. Arms 8. Tentacula 2, very long. Mouth terminal, horny. Eyes? beneath the Arms.

1. Officinalis. *Ink or Cuttle Fiſh.* Arms pointed and covered on the inner ſide with tubercles. Tentacula broad at the end, and longer than the Body. Length 6 inches. In the ſea.

2. Loligo. *Sea Sleeve.* Body angular, and pointed at the baſe. Arms narrower than in the former. Length 8 inches. *Dale Harw.* 392.

MEDUSA. Body gelatinous, orbicular, depreſſed. Mouth beneath, central. Inhabit the ſea.

1. Cruciata. . . . . Margin entire. In the center a white croſs. Diameter 1 inch.

2. Aurita. *Sea Nettle.* Convex above, concave beneath. Margin fringed. On the under Side 4 arched cavities ſurrounded by an opake line, compoſed of more than 20 dots. On the upper ſurface pale veins.

3. Capillata. *Sea Lungs.* Orbicular, convex. Margin regularly divided into 16 ſegments.

ASTERIAS.

ASTERIAS. Form of a ſtar. Depreſſed. Mouth in the center.

1. Rubens. *Five Fingered Star Fiſh.* Reddiſh white. Above covered with ſoft ſpines. Beneath a quadruple row of papillæ. Diameter 5 inches. *Dale Harw.* 436. *Mer. Pin.* 191. Foſſile, called *Shugborough Star Stone.*

2. Ophiura. Body, in proportion, broader, and rays, which are alſo 5 in number, much ſhorter than in the laſt ſpecies. *Dale Harw.* 436.

ECHINUS. Body roundiſh, covered with a bony cruſt, with moveable ſpines. Mouth beneath, of 5 valves.

1. Eſculentus. *Sea Hedge-hog.* Shell hemiſpherical, bluiſh-red. Ten ſeries of ambulacra or ſpines, with white points. Apertures roundiſh. Anus vertical. Diameter 1½ inch. On the coaſt near Scarborough.

2. Spatagus. *Sea Egg.* Oval, compreſſed. From the center 4 radii, compoſed of 4 ſeries of perforated punctures. Aperture of the Anus beneath. On the Yorkſhire coaſt.

III. TESTACEA.

Incloſed in a hard ſhell, of one or more parts or valves, and moveable by the animal.

LEPAS. Shell of many unequal valves fixed at the baſe. Animal *Triton*.

1. Balanus. . . . . Shell conic, furrowed, fixed. Valves 4, pointed. On the ſea-ſhore.

2. Balanoides. *Small Balanus*, or *Acorn fiſh*. Grey. Valves 6, ſtriated, obtuſe. Size of a nut. Frequently adheres to Oiſters.

3. Tintinabulum. . . . . Shell conic, rough, obtuſe, fixed. Like the laſt, but thicker.

4. Anatifera. *Barnacle*. Shell compreſſed, ſmooth, of 5 valves, 2 of which are larger than the reſt. Fixed generally to old wood in the ſea, by a pedicle, like a gut, about 1 inch in length.

PHOLAS. Shell bivalve, divaricated, with ſmaller irregular acceſſary valves at the hinge, which is recurved and connected by a cartilage. Animal *Aſcidia*.

1. Dactylus. *Piddock*. Shell rough, ſtriated longitudinally and tranſverſely; ſhape irregular, the hinge nearer the end, which extends into a kind of beak. Length 2 $\frac{1}{2}$ inches. Breadth 1 $\frac{1}{2}$. In ſtones, particularly in the Ludus Helmontii. Shines by night.

2. Candidus. . . . . Shell oblong, rough, ſtriated both ways, white, diaphanous, thin,

thin, fragile. Hinge neareſt one end. Length 1 $\frac{1}{4}$ inch.

3. Criſpata. . . . . Shell divided tranſverſely by a deep furrow; one half gibbous, ſtriated, rough, with a long beak, the other plain, ſmooth, with a thin edge. Hinge with a curved tooth. Open at either end. Length 1 $\frac{1}{2}$ inch. Breadth 1 $\frac{1}{4}$. Frequent on the Yorkſhire coaſt.

MYA. Shell bivalve, open at one end. Hinge with a broad thick tooth, not let into the oppoſite valve.

1. Truncata. . . . . Shape irregular, ſomewhat oval. Hinge obtuſe. Length 1 $\frac{1}{2}$ inch. Breadth 1 inch. Often found in a foſſile ſtate. In the ſea.

2. Pictorum. . . . . Oval. Pale green. Somewhat pointed. Hinge very near the obtuſe end. Length 1 $\frac{1}{2}$ inch. Breadth $\frac{2}{3}$ inch. In rivers.

3. Margaritifera. . . . . Oval, black, thick, heavy. Tooth of the hinge, ſmooth, conic. Within whitiſh, with a double cicatrice. Length 5 $\frac{1}{2}$ inches. Breadth 2 $\frac{1}{2}$. In rivers.

SOLEN. Shell bivalve, oblong, open at each end. Hinge with a ſingle, or double, conic bent tooth, not let into the oppoſite valve. Animal *Aſcida*.

1. Siliqua. . . . . Brown, linear, ſtrait, truncated at each end. Striated both ways, and a diagonal line. Hinge at one angle, connected by a membrane. Length 6 inches. Breadth not quite an inch. Frequent on the ſhore near Scarborough.

2. Enſis. . . . . Differs from the laſt in being much leſs, and a little curved.

TELLINA. Bivalve. In the fore part of one ſhell a convex, in the other a concave fold. Hinge of three teeth. Animal, *Tethys*.

1. Trifaſciata. . . . . Oval, compreſſed, reddiſh-white, with 3 crimſon rays from the hinge to the circumference. *Pubes* wrinkled, *Vulva ovata*. Length 1 inch. Breadth $\frac{2}{3}$ inch.

2. Carnaria. . . . . Suborbicular, ſmooth, reddiſh-white, obliquely ſtriated. Within red. Length $\frac{3}{4}$ inch. Breadth $\frac{2}{3}$ inch. *Dale Harw.* 387.

3. Cornea. . . . . Globous, ſmooth, horn colour, with a tranſverſe furrow. Size of a large pea. In pools of freſh water.

CARDIUM. Bivalve. Valves equal. Hinge with middle teeth alternate, lateral teeth remote, and let into a groove in the oppoſite valve. Shape of a heart. Animal *Tethys*.

1. Echinatum. ..... White, with about 20 ridges, and a row of curved ſpines on each ridge. Breadth 1½ inch. Length ſomewhat leſs. On the Yorkſhire coaſt.

2. Edule. *Common Cockle.* Ridges 26.

MACTRA. Bivalve, inequilateral, equivalved. Middle tooth of the hinge complicated with an adjacent groove. Animal, *Tethys.*

1. Solida. ..... Opaque, ſubrotund. One valve convex, the other a little compreſſed. Yellowiſh white. Concentric curved tranſverſe lines on the ſurface. Margin entire. Breadth 1½ inch. On the Yorkſhire coaſt.

DONAX. Bivalve. Anterior margin very obtuſe. Hinge with 2 teeth. Animal, *Tethys.*

1. Trunculus. ..... Within purple. Margin ſerrated. Hinge neareſt the ſmall end. Striæ from the hinge, croſſed by deep concentric tranſverſe lines. From the hinge to the oppoſite margin half an inch. Breadth not quite 1 inch. On the coaſt near Scarborough.

VENUS. Bivalve. Anterior margin incumbent. Hinge with 3 teeth. *Vulva & Anus* diſtinct.

1. Mercenaria. . . . . Heart-ſhaped, thick, ponderous, ſmooth, with a few tranſverſe ſtriæ. Margin ſerrated. Internal margin purple. *Liſt Angl.* t. 8. f. 33.

2. Borealis. . . . . Subrotund, thin, fragile and very ſhallow. Seven or eight concentric tranſverſe curve lines, diſtant from each other. Diameter $1\frac{1}{4}$ inch.

OSTREA. Bivalve, inequivalve. Hinge without teeth, with an oval cavity. *Vulva anuſve nulla.* Tranſverſe ſtriæ.

1. Maxima. *Large Scallop.* Longitudinal ridges 14. One valve a little convex, the other plane. Auricles equal, rectangular, ſtriated. Reddiſh, clouded. Diameter about 4 inches. On the Iriſh coaſt, and near Portland.

2. Obliterata. *Small Scallop.* Outſide ſmooth, purpliſh red; inſide yellowiſh purple, with 24 longitudinal double radii. Length $1\frac{1}{2}$ inch. *Dale Harw.* 383. On the beech near Landguard fort.

3. Edulis. *Common Oiſter.*

ANOMIA. Bivalve; one gibbous at the baſe, the other plain, and leſs. Hinge without teeth. Foſſile in this kingdom.

1. Gryphus. . . . . Oblong, ſmooth. The under ſhell is conſiderably curved upwards

wards near the hinge. Length 2 ¼ inches.

2. Pecten. . . . . Semiorbicular. On one valve many longitudinal ſtriæ. Theſe ſhells, or impreſſions of them, are found in black ſtones in coal mines. Breadth 1 inch.

3. Truncata. . . . . Auriculæ large. Longitudinal ſtriæ extreamly fine and numerous. Hinge ſtraight. Length half an inch; breadth ⅔. In limeſt-ones.

4. Criſpa. . . . . Subtriangular, rough, plicated, the middle fold larger and deeper than the reſt. On one ſide a kind of beak or point. Diameter 1 inch. In bluiſh lime-ſtone, in Craven and other parts.

5. Lacunoſa. . . . . Size of a large hazel-nut, of 3 lobes. Valves plicated at the apex. One valve with deep cavities, tridentate at the apex.

6. Terebratula. . . . . Rounded at one end, and ſharp at the other. One valve with 3 folds, the other with 2. Length near 1 inch.

7. Spinoſa. . . . . With ſpines as long as the ſhell.

MYTILUS. Bivalve, rough, generally fixed to the *Biſſus*. Hinge without teeth, diſtinct, with a ſubulated hollow longitudinal line.

1. Litho-

1. Lithophagus. . . . . White, gloſſy, foſſil, filled with a yellow earthy ſtone. Length 2 inches. Thick half an inch.

2. Rugoſus. . . . . Rounded at one end, and truncated at the other. A line parallel with the margin. Length 1 inch. Breadth half an inch.

3. Edulis. *Common Muſcle.*

4. Cygneus. . . . . Oval. Outſide greeniſh, within ſilver-white. Both valves very thin, and in ſome degree tranſparent. Length 5 inches. Breadth 2½. In many lakes in the North. *Liſt. Angl. app.* 9. t. 1. f. 3.

CYPRÆA. A ſingle ſhell, involuted, oval, obtuſe, ſmooth. Aperture dentated, longitudinal. Animal *Limax.*

1. Stolida. *Northumberland Gowry.* Grey, with quadrangular brown ſpots on each ſide. Size of a Sparrow's egg.

BUCCINUM. A ſingle ſhell, ſpiral, gibbous. Aperture oval, ending in a dexter cavity. Lip expanded on the inner ſide. Animal *Limax.*

1. Lapillus. *Larger Engliſh Purple Fiſh.* Whitiſh, thick, ponderous. Volutions 5. Aperture not large. Lips thick, ſerrated. Beak ſhort, notched. Length 1½ inch. On the ſhore.

2. Un-

2. Undatum. . . . . Thick, ponderous; outside reddish brown; within reddish white. Volutions 7, longitudinally waved, transversely striated. Aperture large. Length 3 inches.

MUREX. A single shell, spiral, rough. Aperture ending in a straight canula. Animal *Limax*.

1. Corneus. *Long Welk.* Thick, strong. Volutions 8, striated parallel with the volutions. Beak long. Length 2 inches. On the coast.

TROCHUS. A single shell, spiral, subconic. Aperture somewhat angular or roundish, narrow at the top. Columella oblique.

1. Pharaonius. *Top Shell*, or *Venus Bugle.* Umbilicated, oval, striated; with alternate black and white spots in transverse rows. Aperture and umbilicus dentated. *Dale Harw.* 381. 4.

2. Cornulus. *Small Umbilicated Top Shell.* Size of a waistcoat button. Transversely waved and striated with brown. Volutions 5, with a raised line or cord between. On the East coast. *Dale Harw.* 381.

3. Zizyphinus. *Pyramidal Sea Snail.* White, with reddish spots in the middle of each volution.

volution. Somewhat like the laſt, but without cord. *Dale Harw.* 380.

TURBO. Shell ſingle, ſpiral. Aperture orbicular, contracted, entire. Animal *Limax.*

1. Littoreus. *Periwincle.* Volutions 5, ſtriated.

2. Duplicatus. . . . . White, pyramidal, like a ſcrew. A double ridge along the middle of the volutions, which are about 12 in number. Length 3 inches.

3. Perverſus. . . . . Yellowiſh white, thin. Volutions 7, contrary, i. e. from right to left. Length $\frac{1}{3}$ inch. Near the trunks of old trees.

4. Muſcorum. . . . . Oval, yellowiſh, pellucid. Volutions 6. Aperture compreſſed, narrow. Length $\frac{1}{4}$ inch. On old moſs-grown walls.

HELIX. *Snails.* Shell ſingle, ſpiral, ſubdiaphanous, fragile. Aperture contracted, ſubrotund, lunated on the inner ſide. Animal *Limax.*

1. Lapicida. . . . . Brown or horn colour, convex on both ſides. Volutions 5, with tranſverſe reddiſh ſtriæ. Apex a little prominent, perforated. Margin of the volutions ſharp. Aperture large, oval, tranſverſe, and white within. Diameter $\frac{3}{4}$ inch. In woods in Lincolnſhire.

2. Pla-

2. Planorbis. . . . . Brown. Both ſides convex. Volutions 4, with a prominent ſharp margin. Aperture oval, oblique, circumſcribed. Diameter $\frac{2}{3}$ inch. In rivulets.

3. Vortex. . . . . Black-brown. Volutions 5. Diameter $\frac{1}{3}$ inch. Aperture not circumſcribed; otherwiſe like the former.

4. Cornea. . . . . Brown, with very minute raiſed ſtriæ. Volutions 4. Concave on both ſides. Diameter 1 inch. Snail has red horns, and emits a crimſon liquor. In ſtill rivers and pools.

5. Pomatia. . . . . Aſh colour. Volutions 5. Aperture ſomewhat lunar, reflexed, with a deep external ſinus on the left ſide. Size of a Pigeon's egg. In the South. Eaten in France.

6. Arbuſtorum. . . . . Yellow, ſpotted or marbled with white. Volutions 5, with a ſingle grey belt along the middle. Aperture lunar, with a double margin. Middle ſize. In ſhady thickets.

7. Vivipara. . . . . Black-brown, with 2 or 3 brown belts. Volutions 5. Apex pointed. Aperture round, near which is a deep ſinus. In ſtill rivers and pools.

8. Nemoralis. *Common Garden Snail.* Colour various.

9. Stag-

9. Stagnalis. . . . . Yellowiſh, opaque. Volutions 6. Aperture very large, oval. Apex ſlender, pointed. Length 1½ inch. In pools.

10. Putris. . . . . Yellowiſh, very thin. Volutions 3. Apex obtuſe. Aperture large, oval. Length ⅗ inch. In rivers and pools.

11. Tentaculata. . . . . Olive colour. Volutions 5. Aperture oval, cloſed by a valve, and the whole ſhell covered by an argilaceous cruſt. In rivers and pools.

12. Auricularia. . . . . Yellowiſh, pellucid. Volutions 4, the 3 lower very ſmall. Aperture very large. Length 1 inch. In rivers and pools.

NERITA. Shell ſingle, ſpiral, gibbous. Aperture ſemiorbicular; Lip tranſverſe, truncated. Animal *Limax*.

1. Glaucina. *Sea Snail.* Reddiſh white, ſmooth, thick. Volutions 5; the firſt very large, the reſt ſmall, with 5 belts ſpotted with brown. Length not quite 1 inch. On the ſhore.

2. Fluviatilis. . . . . Greeniſh blue, thick, ſtrong, reticulated, ſpotted. Volutions 2. Size of a ſmall pea. In rivers.

3. Littoralis. . . . . Greeniſh brown, reticulated. Volutions 3. Apex a little promi-

prominent. Length $\frac{1}{3}$ inch. On the ſea ſhore. *Liſt. Angl.* 164. t. 3. f. 13.

HALIOTIS. Shell ſingle, auriform, flat; diſk longitudinally perforated. Animal *Limax.*

1. Tuberculata. *Sea Ear.* Oval. Convex ſide reddiſh brown, with ſpiral ridges, and 6 or 7 round holes. Concave ſide mother of pearl. Length 4 inches; breadth $2\frac{3}{4}$. On the ſhore.

PATELLA. Shell ſingle, ſubconic, not voluted. Animal *Limax.*

1. Vulgata. *Common Limpet*, or *Pap Shell.* Livid grey. Conic with 14 obſolete angles. Apex obtuſe, and not in the center. From the apex to the edge $1\frac{1}{4}$ inch. Diameter of the aperture 2 inches. On the coaſt.

2. Lacuſtris. . . . . Oval, fragile, pellucid. Vertex pointed, reflexed. Diameter $\frac{1}{3}$ inch. In the rivers Air and Warf in Yorkſhire.

SERPULA. Shell ſingle, tubular, adhering to other bodies. Animal *Terebella.*

1. Spirorbis. . . . . Orbicular, ſpiral, regular. Volutions above inwardly ſubcaniculated, gradually leſs. Adheres to ſea weeds on the coaſt.

SABELLA.

SABELLA. Tubular, compoſed of particles of ſand united by a membrane. Animal *Nereis*.

1. Alviolata. *Engliſh tubular Sand Coral.* Compoſed of numerous cells. Animal half an inch long. On the Yarmouth coaſt.

IV. LITHOPHYTA.

Coral, calcareous, fixed, built by animals. Animal *Molluſca*, compoſite.

MADREPORA. Coral, with cavities lamelloſo-ſtellated. Animal *Meduſa*.

1. Muſicalis. . . . . Faſciculated, with corals cylindrical, ſtriated, diſtant, connected by numerous tranſverſe membranes. On the Iriſh coaſt.

MILLEPORA. Coral, with turbinated cylindrical pores. Animal, *Hydra*.

1. Faſcialis. *Stony foliaceous Coralline.* Membranaceous, of many branches, with a great number of oval pores on each ſurface. Found adhering to an Oiſter-ſhell, on the coaſt of the Iſle of Wight.

2. Polymorpha. . . . . Short, irregular ramifications of equal thickneſs in all parts, of a ſtony, chalky appearance; ſometimes livid red. Near Falmouth, Iſle of Man, Ireland.

CELLE-

CELLEPORA. Coral, ſubmembranaceous, compoſed of round cells. Animal *Hydra*.

1. Pumicoſa. . . . . Appears, in the microſcope, like a pumice ſtone. Found on the Sickle Coraline, in irregular lumps like white ſand tenaceouſly united.

V. ZOOPHYTA.

Stem vegetating, and changing into an animated flower, or efflorefcent compoſite animal.

GORGONIA. Stem radicated, horny, continued, branching; baſe ſpreading and covered with a bark. Florets *hydræ*, proceeding from lateral pores.

1. Placomus. *Warted Sea Fan.* Like the branch of a crab tree, incruſted. Florets ſtellated, with 8 ſetaceous rays. On the Corniſh coaſt.

2. Anceps. *Sea Willow.* Stem and branches compreſſed, with porous calcareous edges.

3. Flabellum. *Venus Fan.* Branches compreſſed on the inner ſide, and connected by intermediate network. Cortex yellow.

ALCYONIUM. Florets *Hydræ*, between the cortex. Epidermis veſicular, porous.

1. Digitatum. *Dead-man's Hand.* Without ſtem, coriaceous, wrinkled, ſoft. When recent, covered with minute papillæ, with a ſtar of 8 points on the top of each, and each point contains a polypus with 8 fingers. Frequently taken up by fiſhermen trawling for flat fiſh, on the Kentiſh coaſt.

2. Schloſſeri. ..... Subrotund, fleſhy, livid, covered by a thin ſkin. Florets large, diſtinct, but little elevated, ſtellated with 6—10 points, and with a pore at the baſe. On the corniſh coaſt.

3. Burſa. *Sea Purſe.* Subglobous, ſoft green.

4. Ficus. *Sea Fig.* Lobed like the lungs of animals. Dark olive, fleſhy, ſmells diſagreeably. Inſide full of yellow particles. Surface covered with ſmall ſtars of ſix rays. Near Sheerneſs.

SPONGIA. Stem radicated, flexile, bibulous. Pores on the ſurface reſpire water.

1. Oculata. *Branched Sponge.* Branched, irregular, erect, fine, tender, tranſparent, yellow, interwoven, inoſculating, compreſſed. On the coaſt.

2. Dicotoma. *Forked Sponge.* Green, erect, cylindrical, dicotomous, wooly, of a compact ſubſtance, tough. On the Corniſh and Yorkſhire coaſt.

3. Lacuſ-

3. Lacuſtris. *Creeping Sponge*, with erect, cylindrical, obtuſe branches. At the bottom of lakes in Weſtmoreland.

4. Fluviatilis. *River Sponge*. Green, erect, fragile, irregular, of many branches. In the Thames, Cam, &c.

FLUSTRA. Stem radicated, covered with cellular pores. Florets *Hydræ*, iſſuing from poriform cells.

1. Foliacea. *Broad-leaved Hornwrack*. Branched, foliaceous, membranaceous, flexile, ſpongy, with alternate arched cells on each ſurface. Horny when dry. On the coaſt.

2. Truncata. *Narrow-leaved Hornwrack*. Leaves truncated, and cells diſpoſed in longitudinal lines.

3. Piloſa. *Irregular Spongy foliaceous Coralline*. Cells in the form of inverted cones; apertures ſpinous.

TUBULARIA. Stem radicated, filiform, tubular. Florets terminal, ſolitary.

1. Indiviſa. *Tubular Coralline*. Like a bundle of oaten ſtraws. Tubes diſtinct 5 or 6 inches long, filled with a reddiſh liquor, on the extremities of which are polypes with plumed creſts.

2. Ramoſa. *Small ramified tubular Coralline*. Axillæ twiſted. On the extremity of the tubes are polypes, like thoſe found in ditches by Monſ. Trembley.

3. Fiſtuloſa. *Bugle Coralline.* Tubular, jointed, progreſſively divaricated.

4. Muſcoides. *Tubular wrinckled Coralline.* Compoſed of a number of horny, elaſtic, ſingle tubes, 1 or 2 inches long, and about the thickneſs of a fine ſtraw. A crimſon polypus on the extremity of each.

5. Campanulata. . . . . Creeping, with campanulated tubes, and a creſted polypus. Extreamly minute.

CORALLINA. Stem radicated, jointed, thready, calcareous.

1. Officinalis. *Coralline of the Shops.* Fixed to rock and ſhells by ſtony joints. Stem pinnated by branches oppoſite to each other. Joints like part of an inverted cone a little compreſſed. Surface covered with minute circular cells. Colour various when recent, but conſtantly white when dry.

2. Rubens. *Creſted or Cock's-comb Coralline.* Like moſs growing in round tufts, reſembling a bird's creſt, ſpread flat on each other. White, red, or green. The microſcope ſhews the filaments to be dichotomous.

3. Corniculata. *White ſlender jointed Coralline.* Dichotomous, pinnated below, with a kind of horn on each ſide of the tops of the lower joints. Adheres to ſmall Fuci.

SERTU-

SERTULARIA. Stem radicated, fibrous, naked, jointed. Florets *Hydræ*, one at each joint.

1. Roſacea. *Lilly flowering Coralline.* Branches alternate, with truncated oppoſite denticles, and veſicular florets like the flowers of the lilly. On Oiſters.

2. Pumila. *Sea Oak Coralline.* Branches irregular. Denticles in pairs, oppoſite, with curved points. Veſicles irregular. Polypes on the extremity of both veſicles and denticles. This little creeping Coralline is found proceeding from ſmall tubuli, on the broad leaved indented Sea Oak Fucus, about Sheerneſs.

3. Operculata. *Sea Hair.* Grows in thick tufts, the filaments of which lie upon the ground. Branches alternate. Veſicles reſemble jars with covers.

4. Tamariſca. *Sea Tamariſk.* Branches alternate. Denticles oppoſite. Veſicles ſhaped like a top, with a ſhort tube in the center. In deep water at the enterance of the harbour of Dublin.

5. Abietina. *Sea Fir.* Root wrinkled, tubular. Stems ſtiff, horny. Branches alternate. Denticles alternate, with narrow mouths. Veſicles oval, with narrow necks. On Oiſters, Muſcles, &c.

6. Cupreſſina. *Sea Cypreſs.* Denticles ſubacute, and cloſely united to the ſtem. Branches long, thin. Veſicles bidentate.

—— Argentea. *Squirrel's Tail.* Erect, with thick tufts of alternately denticulated branches. Denticles pointed and curved inwards. Veſicles like jars. On Oiſters, in the iſle of Sheppy.

7. Rugoſa. *Snail-trefoil Coralline.* Roots irregular, creeping, tubulous, adhering to the narrow-leaved Hornwrack. Branches irregular. Denticles alternate, tranſverſely furrowed, and ſhaped like the cones of the Fir. Veſicles of the ſame ſhape, but with 3 ſharp Teeth on the top. Near Brighthelmſtone.

8. Halecina. *Herring-bone Coraline.* Erect, tubular, pinnated. Denticles alternate, obſolete. Veſicles oval. Reſembles the ſpine of a Herring.

9. Thuja. *Bottle-briſh Coralline.* Ariſes from horny tubuli, firmly adhering to Oiſters. Stem zigzag, branched at the top. Branches forked. Denticles cloſe to the branch. Veſicles at the bottom of the branches, oval, covered. On the northern coaſt.

10. Myriophillum. *Pheaſant's-tail Coralline.* Root ſpongy. Stem gibbous on one ſide, and feathered on the other. Denticles like cups, all on one ſide of the pinnæ. Height 10 or 12 inches. In deep water on the Iriſh coaſt.

11. Falcata. *Sickle Coralline.* Adheres to rocks by wrinckled tubes. Stem waved. Branches pinnated and curved. Denticles

ticles on one ſide of the pinnæ. Veſicles like jars. On the Kentiſh coaſt.

12. Pluma. *Podded Coralline.* Like the laſt, except that the denticles are ſhaped like the flowers of the Lilly of the valley. From the branches ariſe little pods, incompaſſed with ſtudded ribs. On Muſcles, &c. near Dublin.

13. Antennina. *Lobſter's-horn Coralline, or Sea Beard.* Branches alternate, ſtraight. Denticles verticillated, quatern, bearded. Veſicles verticillated, with the aperture oblique.

14. Verticillata. *Horſe Tail.* Branches alternate. Denticles obſolete. Veſicles on twiſted foot-ſtalks, ſhaped like cups, verticillated; cups denticulated round the brim. Near Whitehaven.

15. Volubilis. *Small climbing Coralline.* Veſicles like bells on the ſummit of long ſlender ſtems, twiſted round other Corallines.

16. Syringa. . . . . Twiſted ſtems, much ſhorter than the laſt. Cups cylindrical. Adheres to the Sea-fir Coralline.

17. Cuſcuta. *Climbing Dodder-like Coralline.* Stems no thicker than hair. Branches oppoſite, ſimple. Veſicles oval, axillary. On the Podded Fucus.

18. Uva. *Grape Coralline.* Extreamly minute. The microſcope ſhews cluſters of oval

veſicles like grapes attached to the ſtem; theſe are polypes.

19. Lendigera. *Nit Coralline.* Stem jointed. Veſicles cylindrical, arranged like organ pipes on one ſide of the ſtem. Minute. Climbs on Fuci, &c.

20. Geniculata. *Knotted-thread Coralline.* Stem waved, jointed. Denticles alternate, contorted. Veſicles alternate, like jars with a cover. Adheres to Podded Fucus. Dover, Harwich.

21. Dichotoma. *Sea-thread Coralline.* Stem no thicker than a fine thread, zigzag, jointed, tough, pliant, with ringlets at each joint, and a twiſted foot-ſtalk, each ſupporting an oval veſicle, ſome cloſed, and others open at the top. On the ſouth-weſt coaſt.

22. Spinoſa. *Silk Coralline.* Stem compoſed of ſilky threads, zigzag, with ſhort forked branches. Irregular rows of pores on one ſide of the branches. Adheres to ſtones. . . . . .

23. Pinnata. *Sea Briſtle.* Stem jointed. Branches alternate, capillary, denticulated. Veſicles ſhaped like Olives. Grows on Muſcles, like ſtiff briſtles, which, when dried, bend all one way.

24. Polyzonias. *Great Tooth-Coralline.* Denticles large, oval. Veſicles tranſverſely ſtriated. Stem ſlender, twiſted. On Muſcles.

25. Liche-

25. Lichenaſtrum. *Sea Spleenwort.* Stem upright, jointed, compreſſed, denticulated. Branches ſtraight, alternate, denticulated. Denticles alternate, obtuſe, numerous, and cloſe preſſed to the branches. Near the harbour of Dublin.

26. Burſaria. *Shepherd's-purſe Coralline.* Pearl colour. Branches irregular, with numerous denticles, like brackets, oppoſite. A figure like the head of a tobacco-pipe on the top of each denticle. Branches extreamly fine. On Fuci.

27. Loriculata. *Coat of Mail Coralline.* Grows in large thick tufts. Stem and branches are compoſed of denticles or cells, oppoſite, and obliquely truncated at the top, which is broader than the bottom. Iſle of Sheppy.

28. Faſtigiata. *Soft-feathered Coralline.* Appears in its perfect ſtate like the branch of a ſhrub, with many leaves or feathers. Branches forked. Denticles alternate, ſemicylindrical, pointed, with a black ſpot in the middle.

29. Avicularia. *Birds-head Coralline.* Like a feather about 1½ inch long. Branches compoſed of cells with a ſharp denticle on one ſide, and a globular veſicle like a bird's head, with the bill wide open. Very brittle. Near the harbour of Dublin.

30. Scrupoſa. *Creeping Stony Coralline.* Branches dichotomous. Denticles alternate, angulated, ſpinous.

31. Repens. *Creeping Coralline.* Branches dichotomous. Denticles alternate, bidentated. Adheres to ſhells.

32. Ciliata. *Ciliated Coralline.* Branches dichotomous, erect, with infundibiliform cells joined at their baſes, and with wide mouths bearded on the upper lip.

33. Eburnea. *Tufted Ivory Coralline.* Branched. Cells arched, conjunct, gibbous, with a neck not in the center.

34. Cornuta. *Goat's-horn Coralline.* Branches alternate. Cells ſingle, ſhaped like goats horns inverted, with a circular aperture, and a ſingle upright hair near the top of each. Very minute.

35. Loricata. *Bull's-horn Coralline.* Branches alternate. Cells ſingle, like inverted horns inſerted into each other, with a ſhort hair on the top of each. Very minute.

36. Anguina. *Snake Coralline.* Not branched. Stem an irregular tube, from which proceed, here and there, ſmall oblong teſtaceous figures like ſnakes without the under jaw.

VORTICELLA. Stem fixed, vibrating the floret in a vortex. Floret with a

vaſcular calyx: mouth contractile, ciliated, terminal.

1. Polypina. *Cluſtring Polypus Coralline.* When at reſt appears like a bunch of grapes; but has a power of expanding into the form of a little tree bearing large pears, without leaves.

2. Anaſtatica ..... Compoſite; florets numerous, campanulate. Stem rigeſcent. In freſh water, on ſhells and plants.

3. Cratægaria. ..... Compoſite. Stem branched. Florets globous. Tentacula 2. In freſh water.

4. Opercularia. ..... Compoſite. Stem branched. Florets oval. In freſh water.

5. Umbellaria ..... Compoſite. Stem umbelled. Florets globous ciliated. In freſh water.

6. Convallaria. ..... Simple, gregarious. Florets companulate. In freſh water.

7. Urceolaris. ..... Simple, pedunculated, mouth dentated. In lakes.

HYDRA. Stem not fixt to any particular ſubſtance. Gelatinous, with a ſingle Floret. Mouth terminal, environed by ſeveral tentacula.

1. Viridis. ..... Tentacula 10. Short. Green. In rivers.

2. Fuſca.

2. Fuſca. . . . . Brown. Tentacula 8. In freſh water.

3. Griſea. . . . . Grey. Tentacula 7. long. In clear freſh water.

4. Hydatula. . . . . Tentacula 4, obſolete. Like a pellucid bladder, with a cylindrical neck. In the abdomen of ſheep, ſwine, mice, &c. between the peritoneum and the inteſtines.

5. Stentorea. . . . . Tentacula ciliated. Body infundibuliform. In freſh water.

TÆNIA. Body long, jointed, like a chain. Mouth and viſcera to each joint.

1. Solium. Mouths marginal, one in each joint. In the inteſtines of various animals.

2. Vulgaris. *Common Tape Worm.* Mouth lateral, 2 in each joint. In the inteſtines of men and brutes.

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APODES. From *à* priv. and *πους*, *pes*, a foot. The 1ſt Order of Claſs IV. Containing thoſe Fiſhes which have no belly-fins, which Linnæus conſiders as feet. Page 67.

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THORACICI. From *Thorax*, the Breaſt, or that part of the body which contains the heart and lungs. The 3d Order of Claſs IV. Containing thoſe Fiſhes whoſe ventral or belly fins are placed immediately under the pectoral fins. Page 72.

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END of VOL. I.

ERRATA.

Page 10 line 4. for Accipetres, read Accipitres
16 dele Frugilegus N°. 3.
192 for Molluſea, read Molluſca